

**INVESTIGATING THE USE OF CONDOMS AMONG
URBAN HIGH SCHOOL STUDENTS
IN ASMARA, ERITREA**

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DECLARATION

I declare that this dissertation is my own work. I was given support from my supervisor Dr. Stephen Knight and technical advice from Dr. Eyob Azaria.

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LIST OF ABBREVIATIONS AND ACRONYMS

AIDS	Acquired Immune Deficiency Syndrome
ASE	Attitude-Social Influence and Self-Efficacy
CDC	Center for Disease Control
CSWs	Commercial Sex Workers
ESMG	Eritrean Social Marketing Group
FGM	Female Genital Mutilation
GHAR	Greater of Horn of Africa Region
HAMSET	HIV/AIDS, Malaria, Sexually Transmitted Infections, and Tuberculosis Project of the Government of Eritrea/World Bank
HCWs	Health Care Workers
HIV	Human Immuno-deficiency Virus
IDP	Internally Displaced Person(s)
IEC	Information, Education Communication
KAP	Knowledge, Attitude and Practice
MOE	Ministry of Education
MOH	Ministry of Health
NACC	National AIDS Coordination Committee
NACP	National AIDS Control Program
NDHS	National Demographic Health Survey
NGO	Non Governmental Organization
NUEYS	National Union of Eritrean Youth and Students
STIs	Sexually Transmitted Infections
UNAIDS	Joint United Nations Programme on HIV/AIDS
USAID	United States Agency for International Development

VCT Voluntary Counseling and Testing

WHO World Health Organization

EXECUTIVE SUMMARY

HIV/AIDS epidemic has become a global concern. There is as yet no cure for AIDS but the provision of appropriate and effective HIV/AIDS – related health education is an important strategy in helping people at risk to protect themselves. This in turn acts to limit the spread of the disease.

Adolescent sexuality and reproductive health issues are just beginning to receive attention in Eritrea. Previous studies of the health of school children in Eritrea have been rare and limited. As such, the potential for a sexually transmitted HIV epidemic among Eritrea's youth is difficult to assess.

This study provides information on the knowledge, attitude, belief and practice of HIV/AIDS as well as sexual practice and condom usage among a sample of 754 Asmara high school students. This survey was conducted in grades 9,10 and 11 at five high schools in Asmara in 2004.

The findings of the present study demonstrate that HIV is understood to be a disease largely increased with STIs. This reflects what is generally understood to be the Eritrean experience of HIV to date. This is, however, a fragmentary understanding of HIV and its likely impact on Eritrea in the future. The apparent presence of understanding of condom use during sexual intercourse as a means of HIV prevention among the sexually active students is encouraging.

The students knowledge, attitude, belief and practice of HIV/AIDS as well as sexual practice and condom usage is limited in scope and fails to encompass the increased risk of sexual transmission of HIV. Majority (87%) showed their ability to get information on HIV as to cause AIDS and understanding of STIs (75%) in increasing the risk of HIV and its sequela is extremely high. The majority of students (93%) simply know that people could protect themselves from HIV by abstaining from sexual intercourse. This apparent presence of information about the sexual transmission of HIV was found by most students, 84% knowing that AIDS couldn't be cured.

On a more positive note, students displayed generally non-discriminatory attitudes towards unpractising sex while in their academic enrollment. This result is somewhat surprising given the association between HIV and sexual transmission – a highly stigmatized practice in Eritrea. Given the low prevalence of HIV (0.1%) among secondary school students in Eritrea, it is unlikely that any of the students will have sex experience and thus their responses to condom usage may not yet be grounded in actual experience. However, this finding could also reflect the impact of education programs about HIV/AIDS undertaken by the government through the mass media and health education.

This study has shown that a small proportion of students of both sexes (17% males and 3% females) report having engaged in sexual intercourse while at school ($p < 0.05$). Of those who engaged sex (19%), 70% had used condom always, 23% used sometimes and 7% never used. This implies that there is high acceptance of condom as a protective measure from HIV and STIs after abstinence. In addition the finding is consistent with the small number of other studies of Eritrea's young people in this age range. Of those who ever had sex before, 68(46%) pupils only reported that they are currently sexually active ($p < 0.05$). While most students in this study are not yet sexually active, they will become so in the years to come. There is evidence that they will be equipped with the appropriate skills and knowledge when that time comes.

The findings of this and other studies done in Eritrea consistently show that the high school students are not engaging in practices for which they are at risk. Evidence suggests that few students are becoming sexually active at a younger age. There is no reason to expect that this trend will be halted or reversed. If anything, the forces of globalization and the liberalization of Eritrea make it likely that such trends will gather speed.

For these reasons, it is imperative that new ways be found to provide sexuality and gender education to high school students in Eritrea. These new ways would need to recognize the importance that Christian and Moslem morality and Citizen Education have in contemporary Eritrea yet they would also need to deal with the changing reality which young people experience. Among those students who have sought information about HIV/AIDS issues, the most commonly accessed sources of information were mass

media and health education and less commonly from friends and relatives. However, the appropriateness and quality of information that mass media, health education and friends/relatives provide these students are currently on the process. Thus, the commonly accessed sources may play a pivotal role in providing appropriate information to these young students by working in partnership between the government's mass media, Ministry of Health and Ministry of Education. As is already the case, this information will be complemented by school-based education.

The recommendations of this study are: -

Recommendations for encouraging school youth in Eritrea to use condoms: So in line with the culturally unacceptable pre-marital sex already existing, an intensive HIV/AIDS and STIs related health education campaign needs to be re-enforced and implemented at public/private schools in order to provide young people with the skill and knowledge necessary to enact safe behaviors.

Recommendations for improving access to condoms for youth: given the current threat of HIV/AIDS epidemic at national and international level, there should be clear government policies and guidelines concerning easy accessibility and distribution of condoms at places like schools, health facilities, pharmacies, shops and bars without control and tightness.

Recommendations for Utilizing Peer Educators at Schools as part of a health education programme: in line with the health education programs being carried out on high schools of Eritrea, concerned bodies such as MOH, MOE and NUEYS should cooperate with each other in recruiting peer educators at these schools. These peer educators can play a major role in influencing their peers at school to understand and follow safe sex behaviors.

Recommendations for preventing HIV infection and other STDs: sexually transmitted diseases, including HIV infection, are preventable, and individuals have several responsible prevention strategies to choose from either engaging in sexual activities that do not involve vaginal, anal, or oral intercourse; having intercourse only with one uninfected partner or using latex condoms correctly from start to finish with each act of intercourse.

Recommendations for policy and practice: while schools are an important site for sexual health and drug and alcohol education programs for young people, health services and

health planners also have a role to play in supporting the work of schools. Health services and health promotion programs should, where possible, work in partnership with schools to ensure that sound programs are implemented and that young people are assisted to access health services.

Recommendations for further studies: that funding is sought for a comprehensive, nationally representative survey of the sexual health knowledge, attitudes, beliefs and practice of Eritrea's high school students. Also on the basis of this pilot study, a qualitative study be undertaken to explore the settings in which young people would most like to receive sexuality and gender education with particular emphasis on the complementary roles of the family, the school and other institutions such as the National Union of Eritrean Youth and Students (NUEYS).

That on the basis of the outcomes listed about, pilot materials and delivery mechanisms be developed and trailed.

CHAPTER ONE

BACKGROUND INFORMATION

1.1 INTRODUCTION

Human Immunodeficiency Virus /Acquired Immunodeficiency Syndrome (HIV/AIDS) has become a global concern. ¹ The considerable and disproportionate impact of the disease on youth and the reproductive sector has reached a stage where it threatens the social and economic well being of human society. ¹ There is as yet no cure for HIV/AIDS but providing appropriate and effective HIV/AIDS related health education is an important strategy in helping people at risk to protect themselves. This in turn acts to limit the spread of the disease.² In Eritrea about 41.2% of the total population is between the age of 14 and 25 years, the age group at greatest risk for HIV infection.³

In 2002, the HIV prevalence in Eritrea was 2.4% in the general population. ⁴ This is lower than in many other African countries but young people are at particular risk and condom use is low and the youth do not consider themselves to be at risk of HIV infection. ⁵ A very high percentage of the population of 18 – 40 years old, many of them high school graduates, are currently serving in the Eritrean Defense Force. ⁴ Therefore, it seems rational to conduct HIV/AIDS related research among high school learners since the HIV infection among this age group also have a risk of contracting this infection during their military service.

In 2001, HIV prevalence in the military was at 4.6% compared to 2.4% in the general population. Forthcoming demobilization of over 200 000 military personnel poses a grave threat of spreading HIV – currently mainly an urban problem – across the nation.⁴ The opportunities for reaching military personnel before and during their demobilization with information and education about HIV/AIDS prevention are unique. Some proactive strategies are being explored, such as training demobilized national service conscripts and ex-combatants to serve as effective change agents in their communities after completing training in HIV/AIDS prevention campaigns prior to their return to their homes.

To date, the government of Eritrea has promoted a multisectoral approach to disease prevention and health promotion activities through the collaboration of different government sectors at national and international levels. To this end, the **HIV/AIDS, Malaria, Sexually Transmitted Infections and Tuberculosis (HAMSET)** project (a government and international agency partnership) was launched aiming to reduce transmission of these diseases in the general population, among which specific target groups such as the high school learners are included. ⁶

Similarly, the National Union of Eritrean Youth and Students (NUEYS) is a non-governmental and non-profit organization currently striving for the well-balanced development of Eritrea's youth through the provision of information, education and services to address issues affecting young people and especially the HIV/AIDS epidemic. This organization has established youth friendly centers providing both health and recreational activities. It also includes reproductive health, clinical services, libraries, hotline counseling services, provision of condoms and contraceptives, first aid services and referral to hospital as required. Moreover, awareness of reproductive health issues through public and folk media, production and distribution of Information, Education and Communication (IEC) materials are also underway. ³

With the initiation of health education programmes targeting youth in school, condom usage and availability will greatly help in protecting against HIV/AIDS and STIs transmission. Females in particular should take a leading role in having and using condoms during sexual activities.

This study will contribute relevant information for Eritrea in the overall development of HIV/AIDS intervention programs for its young people.

Eritrea won its independence in 1991 after waging thirty years of war with Ethiopia. Since independence, the nation has faced several major development challenges including economic recovery and the need to improve the general health of its population. ⁶

The first HIV/AIDS case in Eritrea was identified in 1988 in the port city of Assab in zoba Debubawi Keih Bahri. ⁷ Since then the disease has spread throughout the country. The

appearance of this disease served to reinforce this newly independent state's vulnerability to health crises and the inadequacy of the health care system to cope with this new epidemic.

By the end of 2001, there were about 13,500 cumulative reported clinical AIDS cases (6 percent were children under 15 years) in Eritrea. These represent a small portion of the total cases because of incomplete and inconsistent reporting. At the same time, HIV infects an estimated 60,000 – 70,000 persons and an estimated 11,000 deaths had been caused by HIV/AIDS.⁸ According to the 2001 nationwide Biological and Behavioral Survey in Eritrea, HIV seroprevalence among the five targeted population subgroups was 0.1% in secondary school students, 2.4% in the general population, 2.8% in antenatal clinic attendees, 4.6% in military personnel and bar workers (including prostitutes) had the highest prevalence of 22.8%. The survey showed that the knowledge of HIV/AIDS was nearly universal, with 99% of all respondents having heard about it.⁹

1.2 AIM AND OBJECTIVES OF THE RESEARCH

The aim of the research was to investigate the current condom use in sexually active secondary school youth with regular and occasional partners in Asmara, Eritrea. The study would provide the current understanding of high school-aged young peoples' HIV/AIDS-related awareness, attitudes and condom use practices. It would provide an insight of students understanding of sexually transmitted diseases as well as a basic knowledge about their sexual and other reproductive health issues. This would enable planners to identify potential educational interventions, for example, the implementation of an appropriate sexuality education curriculum that could be developed to improve knowledge and to provide a better preparation for a healthy and safe sexual life.

Therefore, this research project was undertaken with the following specific objectives:

- a) To document the sociodemographic profile of high school learners in Asmara.
- b) To measure the prevalence of condom use by sexually active learners.
- c) To determine knowledge, attitudes and beliefs about HIV/AIDS and STIs.
- d) To determine learners' knowledge, attitudes and beliefs about condom use and sex practice.

- e) To determine the social influences affecting secondary school learners' use of condoms.
- f) To describe learners' self-efficacy and intention concerning condom use.

1.3 BACKGROUND TO THIS RESEARCH

The HIV/AIDS epidemic continues to be a grave threat both at national and global level. There is no cure for the disease and it is spreading at an alarming rate. In 2002, Eritrea's Ministry of Health released the results of the first nation wide HIV prevalence survey. Although the study only reported a seroprevalence of 0.1% in secondary school students, youth are still considered at high risk of HIV infection. ¹⁰ The 2002 survey also found that 99% of respondents reported that they had heard of HIV/AIDS. Despite this awareness and a correspondingly high concern about the threat of HIV/AIDS, respondents reported a low perception of personal risk. Three quarters (72%) of those surveyed thought they were at no risk for contracting HIV. Women were more likely than men to report having no risk for infection, although more than 56% of women surveyed reported their husbands or partners had more than one sexual partner. High percentages of bar workers (60%) and soldiers (62%) also believed they were not at risk for infection. ¹⁰

Similarly, a nation - wide sentinel surveillance study done in 2003 in antenatal care attendees showed that HIV prevalence among pregnant women was 2.4%. ⁸ The total population of Eritrea is 3.5 million. ⁶

In Eritrea, the principal mode of HIV transmission is heterosexual contact. HIV infection can also spread through blood and blood products and from HIV- positive mothers to their children during pregnancy, at birth, and through breastfeeding. HIV- negative children of HIV-infected parents are at a great disadvantage because of the health and social consequences of losing one or both parents to HIV/AIDS. It is estimated that there are about 1,000 HIV/AIDS orphans in Eritrea. ¹¹

Identifying potential educational interventions, for example the implementation of an appropriate sexuality education curriculum that could be developed to improve risk groups

knowledge and to provide a better preparation for a healthy and safe sexual life is important for secondary school youth.

1.3.1 Statement of the Research Problem

The provision of appropriate and effective HIV/AIDS-related health education is an important strategy in helping people at risk to protect themselves.²

Adolescent sexuality and reproductive health issues are just beginning to receive attention in Eritrea. Tradition and culture inhibit parents from discussing sexual behavior with their children and schools are not well equipped to transmit relevant information about sexuality, STIs and the use of protection.¹² Previous studies of the health of school children in Eritrea have been rare and limited.¹³

The 1995 National Demographic Health Survey (DHS) and the Qualitative Research Study to Establish Barriers to Condom Use among Youth in Eritrea indicated that condom use is low among the general population (44%) and that many people (72%) do not identify themselves to be at risk and feel uncomfortable to discuss or use condoms.⁵

There are also high levels of denial about the epidemic at both the personal and community level. This denial and depersonalization of the epidemic is complicated by high levels of stigma and fear that prevents people from confronting the issue of HIV/AIDS on a personal level, in their relationships and their demand for and access to services.¹²

The HIV/AIDS Risk Groups and Risk Behaviors Identification Survey done in Eritrea in October 2001 was a nationally representative cross – sectional sample of 4,753 individuals aged 15-49 years. The survey was carried out to learn more about five population subgroups (general population, bar workers, army, students and antenatal attendees) including their socio-demographic characteristics; knowledge, attitude and behaviors related to STIs and HIV/AIDS; and to identify HIV/AIDS risk groups and risk behaviors among the Eritrean population.⁹ According to the survey, the most commonly cited means of avoiding HIV infection was 'condom use' (85%). Knowledge of condom use as a means of preventing HIV infection was more common among younger respondents. Despite this high level of knowledge, the survey showed that use of a

condom at first sexual intercourse was only 18% among young respondents. Unsafe sex practices were higher among those who did not attend school. The data also suggested that as age increases the use of condoms decreases. More males claimed to use condoms than females. Condom use was more common among youth, where 'ever use of condom' in the age group 15 – 24 years was 58%. Respondents in the younger age groups (15 – 20 years) perceived themselves to be at 'low risk' of acquiring STIs because they 'use condoms' or have only 'one sexual partner'.⁹

Using condoms consistently reduces sexual transmission of HIV infection.¹⁴ Sexual intercourse and contact with contaminated blood products (e.g., contaminated syringes and needles) account for the majority of HIV infections. The wearing of condoms during sexual intercourse has been promoted to reduce the infection and spread of STIs such as HIV. A review of studies found that condoms, when used consistently, substantially reduced HIV infection but did not totally eliminate the risk of infection.¹⁴

HIV/AIDS could cause fundamental social and economic challenges in Eritrea and this is likely to affect educational opportunities and the demand for labor.¹² This disease is caused by the inevitable destruction of the body's defenses by the HIV virus, eventually culminating in death.¹ Its principal mode of transmission, sexual intercourse, threatens the basis by which society regenerates itself. Its prevalence among young people threatens the future development of the country socially and economically.¹

Most population based Knowledge, Attitudes and Practice (KAP), studies conducted in selected communities in Eritrea have indicated that people's knowledge about HIV/AIDS is significantly high.¹² The two key indicators of knowledge of ways of preventing HIV/AIDS are 'use of condom' and 'abstinence'. Surveys have shown that 85% of people knew that condom use could prevent HIV/AIDS and 40% that abstinence is a way to prevent infection.⁹

Despite the levels of awareness and general knowledge about HIV/AIDS in Eritrea, behavior change has not been very significant. Condom use, is reported to be low, few

people have reduced the number of sexual partners and few are seeking prompt and complete treatment for STIs.¹²

1.4 ASSUMPTIONS UNDERLYING THE STUDY

Eritrea may be on the verge of a generalized HIV/AIDS epidemic.¹¹ The military population that engages in high risk-behaviors and has higher rates of infection may bring these higher rates of infection back to their home communities when they are demobilized.

Eritrea is fortunate to enjoy a high level of political commitment to HIV/AIDS prevention coupled with good organizational capability.¹¹ Health policies in schools contribute to and are reinforced by a health supportive environment, skills-based health education and the provision of some health services. They can significantly contribute to ensuring a safe and secure physical environment and a positive psychosocial environment when they address such issues as abuse of students, sexual harassment, health-related practices of teachers and students, school violence, bullying, and guaranteeing the further education of pregnant schoolgirls and young mothers, to help promote inclusion and equity in the school environment.¹³ The school setting presents an ideal opportunity to scale up effective, targeted and well-coordinated HIV/AIDS prevention activities and to make a significant difference to the course of the epidemic.¹¹ Targeting youth is an important and essential goal of the HIV/AIDS education and prevention programme. The study will contribute towards the design of health education strategies as well as that health education is an effective strategy for addressing HIV/AIDS.

1.5 SIGNIFICANCE OF THE STUDY

Individuals' health related behavior is influenced by their knowledge of the disease as well as their attitudes and beliefs (positive or negative feelings and opinions) towards the disease or health promoting actions.¹⁵ With the increasing threat of the HIV/AIDS epidemic, understanding the determinants of behavior in different populations such as the youth is of paramount importance. Taking this into consideration, the study of youth

sexual behaviors and awareness of HIV/AIDS and STIs is a critical aspect of the public health response to this epidemic.

With the initiation of health education programmes targeting youth in school, condom usage and availability will greatly help in protecting against HIV/AIDS and STI transmission. Females in particular should take a leading role in having and using condoms during sexual activities. Females need to be empowered and protected.

1.6 SCOPE AND LIMITATIONS OF THE STUDY

The study is limited to the respondents from whom data will be collected. The respondents represent urban high school students in Asmara but cannot be assumed representative of rural high school students of Eritrea. In this study, there may be factors that limit or influence validity. These include limitations in assessing participants' behavior since most of the questions listed in the questionnaire are exploring knowledge, attitudes and practice of condom use, not sufficiently enquiring information on students' behavior. To improve validity the questionnaire was anonymous with no teacher involvement. Because questionnaires were anonymous, reliability cannot be investigated.

Non-participation of learners: During the delivery of the survey questionnaires, there were non-attenders of targeted respondents that were part of the randomly selected classes. Their absence may be for various unknown reasons and this could influence the sample size and responses, and may result in selection bias.

Lack of commitment of the respondents: Learners may not have answered sensitive questions honestly and this may have resulted in information bias.

1.7 ORGANIZATION OF THE REPORT

The dissertation starts by giving background information about the HIV prevalence in the country and its risk for the younger population as well as the risk perception and low condom use in this group. It also highlights the challenges the country faced during independence with, the identification of the first cases of HIV/AIDS.

Chapter two contains the literature review, which looks at the HIV/AIDS situation globally, in Africa and especially in Eritrea. Other literature reviewed is around the theoretical framework for this research, the ASE model (Attitude, Social Influence, and Self-efficacy). Chapter three describes the methodology used in this research study. Chapter four includes the results of the data collected. Chapter five discusses these results. The final chapter contains recommendations that arise from the study as well as the conclusions reached from the research.

1.8 SUMMARY

The first case of AIDS was reported in 1988. Since then the disease has spread throughout the country. By 2001, there were more than 70,000 persons infected by HIV, resulting in more than 11,000 deaths due to HIV/AIDS. The estimated HIV infection prevalence rate is between 2.4% and 2.8% in the general adult population, less than 1.0% in high school students. Most population-based KAP studies conducted in selected communities in Eritrea have indicated that people's knowledge about HIV/AIDS is significantly high.

Despite the level of awareness and general knowledge about HIV/AIDS in Eritrea, this has not resulted in significant behavior change. Condom use is reported to be increasing, but few people have reduced their number of sexual partners.

The main aim of the research is to investigate condom use by sexually active secondary school youth with regular and occasional partners. It will also determine learners' knowledge, attitude and beliefs about HIV/AIDS and STIs.

Although a generalized HIV/AIDS epidemic may emerge in Eritrea, the country has a high level of political commitment to HIV/AIDS prevention activities and this could significantly change the course of the epidemic.

With the threat of a massive HIV/AIDS epidemic, understanding of the determinants of behavior in the youth is important. This study of youth sexual behaviors and awareness of HIV/AIDS and STIs is a public health response to this epidemic.

CHAPTER TWO

LITERATURE REVIEW

2.1 INTRODUCTION

The focus of this dissertation is to investigate the level of HIV/AIDS awareness and condom practice among the sexually active high school students in Asmara, the capital city of Eritrea. The literature review will describe current estimates of global, regional and local HIV/AIDS epidemics.

2.2 PURPOSE OF THE LITERATURE REVIEW

HIV/AIDS is a significant threat to Eritrea's development. Youth as the future of Eritrea, are a vulnerable group badly affected by the HIV/AIDS. They are increasingly exposed to risky sexual behavior including inconsistent condom use, casual sex, and multiple partners. Other factors influencing risk behavior for HIV/AIDS for this young age group include early age of sex initiation and alcohol abuse that increases risky sexual activities. As prevention is the most effective strategy against the spread of HIV/AIDS, youth should know how to avoid getting and spreading the disease and making personal safe-sex behavioral change.

Many theories have been developed to facilitate behavior change. In this study, the Attitude-Social influence-Efficacy (ASE) model will be used as a theoretical framework for behavioral change.

With regard to targeting intervention programmes, a key element of the Eritrean government's strategy was the establishment in 1996 of the Eritrean Social Marketing Group (ESMG).⁵ The group's mission is to address HIV/AIDS prevention via social marketing techniques. ESGM is based on a tripartite agreement uniting Population Service International with the Ministry of Health and the National Union of Eritrean Youth and Students (NUEYS) - an important Eritrean NGO with experience in the field of HIV/AIDS, and in the field of business.⁵ Presently, the ESGM is expanding Information,

Education and Communication (IEC) activities to promote safe sex practices among Eritrean youth and other risk groups. ⁵

The literature review serves the following purposes:

- It provides a conceptual theoretical framework for the research.
- It provides an integrated overview of the field of study.
- Helps establish a need for the research.
- May help clarify the research problem.
- Helps to demonstrate researcher's familiarity with area under consideration (theory and /or methods).



2.3 SCOPE OF THE LITERATURE REVIEW

The literature review looks at the HIV/AIDS situation at a global, regional and national level and provides information on relevant activity reports. While contrasting different individual experiences, it describes various intervention programmes with encouraging results.

2.4 HIV/AIDS PREVALENCE

2.4.1 Global HIV/AIDS

Twenty years after the first clinical evidence of AIDS was reported, it has become the most devastating disease humankind has ever faced. ¹⁶ UNAIDS and WHO estimate that over 60 million people have been infected with the virus since the epidemic began. ¹⁵ Worldwide, HIV/AIDS is reported to be the fourth major cause of mortality. Currently, an estimated 40 million people are living with HIV/AIDS. ¹⁶ The majority of new infections occur among young adults, with young women most vulnerable. About one third of the HIV infected are aged 15 to 24 years. ¹⁶ An overwhelming majority of HIV infected people – more than 90% – live in the developing world. Most of them do not know that they are infected. A study in Tanzania found that 50% of adult Tanzanian women know where they could be tested for HIV, yet only 6% have been tested. Many millions of people the world over know too little about HIV/AIDS to protect themselves against being infected. ¹⁶

Globally, the HIV/AIDS response is moving into a new phase. Political commitment has grown stronger, grass-roots mobilization is becoming more dynamic, funding is increasing, treatment programmes are shifting into gear, and prevention efforts are being expanded.

¹¹ Despite that, measured against the scale of the global epidemic, the current pace and scope of the world's response to HIV/AIDS fall far short of what is required. There is a need to turn all of our knowledge, resources and commitment against this epidemic. ¹¹

2.4.2 HIV/AIDS in Africa

The HIV/AIDS pandemic is devouring the African continent. ¹² The epidemic has spread beyond all predictions and is reported to be the greatest threat to Africa's social and economic development. HIV/AIDS exacerbate the social, economic and cultural inequalities, which define gender relations, especially the status of women within society.

¹² These inequalities, such as economic needs, lack of employment opportunities, poor access to education and information, make women more vulnerable to HIV infection. Therefore, the impact of HIV/AIDS is worse for women than men. If left unchecked, the HIV/AIDS catastrophe in Africa will continue to worsen. The case fatality rate will continue to grow exponentially. ¹²

Africa now accounts globally for 70% of the adults and 80% of children living with HIV/AIDS. The continent has buried three quarters of the more than 20 million people worldwide who have died of AIDS. ¹⁷ The pandemic is concentrated in the HIV/AIDS "belt" stretching from East through Central and Southern Africa, where infection rates are now between 20 and 30 percent of the sexually active population. The bulk of new HIV/AIDS cases are among young people, aged 15-25 and females are disproportionately affected.

¹²

Like most countries in the Eastern and Southern Africa Region, the countries in the Greater Horn of Africa region will almost certainly experience severe demographic effects of HIV/AIDS over the next 25-30 years once the epidemic has peaked. ¹² In Africa, HIV/AIDS related mortality has begun to eliminate the gains made in child survival over the past 20 years. ¹² It is estimated that, life expectancy will drop to 30 years or less in

nine Sub-Saharan countries by 2010. Botswana, Zambia and Zimbabwe would have had life expectancies of 60-70 years without HIV/AIDS, but will have life expectancies of only 30 years with HIV/AIDS. ¹⁸

2.4.3 HIV/AIDS in Eritrea

Eritrea is situated along the Red Sea coast, north of the Horn Africa. It shares common borders with Sudan and Ethiopia. The country has a culturally and linguistically diverse population, estimated at 3.5 million people, consisting of nine ethnic groups with almost equal numbers of Moslems and Christians. Over 70% of the population depends on traditional subsistence agriculture including crop farming, livestock raising and fishing. Small and medium scale industries in the country are limited to consumer goods production for local consumption. ¹⁹

In Eritrea, like other sub-Saharan African countries, women's health is adversely affected by many factors such as poor nutrition and lack of access to adequate health care, especially sexual and reproductive health information and services. The socio-economic dependence of most women on men and the traditional perception of women as the caretakers and reproducers in a male dominated family reduce women's control over their sexuality and thus their own ability to adopt safer sexual practices within the family. ¹² While women are expected to be faithful to their husbands, it is more acceptable for men to have more than one sexual partner, thus affecting both male susceptibility to HIV and increasing the risks for female spouses. In spite of the fact that the socially sanctioned behaviors of the male partners are more likely to be the cause of the initial infection, women are often blamed for bringing HIV into a family and their active participation in the prevention and control of HIV/AIDS is critical. ¹²

Like most sub-Saharan African countries, Eritrea faces several major development challenges, including the need to improve the general health of its population, and at the same time, to combat the rising HIV/AIDS epidemic. The tragedy of the HIV/AIDS epidemic is that it is slowly developing and growing in the Greater Horn of Africa Region (GHAR). ¹²

According to the Ministry of Health, the cumulative number of AIDS cases in Eritrea rose from eight in 1988 to 8254 by the end of 1999 of which 2467 were reported in 1999 alone. However, the number of HIV/AIDS cases is doubling every 18 months.¹²

Eritrea is in the early stage of an HIV/AIDS epidemic. Large portions of the population, especially young adults, are in transition from war to demobilization. There are large numbers of internally displaced persons who will also be returning to their homes and communities. Although no figures exist about the magnitude of HIV/AIDS among internally displaced persons and refugees, anecdotal information and reports from agencies indicate that they are a very vulnerable and high-risk group of people.¹² The social and economic conditions they live in heighten their susceptibility to HIV/AIDS. HIV testing and counseling services are currently limited and have limited impact. STI case management may be present, but requires strengthening. These issues place Eritrea in need of emergency interventions in order to avert a major increase in the transmission of HIV.¹²

Although knowledge about HIV/AIDS is high, (over 97% of Eritrean women and almost 100% of Eritrean males have heard about HIV/AIDS), knowledge about how to reduce the risk or acquiring the virus is very limited. Of even greater concern is that many Eritreans (41% males and 34% females) felt they were not at risk of contracting HIV.¹²

While prevalence of HIV among the general population has remained relatively low at 3%, it was reported to be higher in urban areas, namely Asmara, Massawa and Assab. In Eritrea in 2001, the prevalence among women attending antenatal clinics was 2.8%.²⁰

Surprisingly paediatric HIV/AIDS was reported as 5% of in children under-15 years.²¹ This result seems inconsistent. In 1999, 270 deaths due to HIV/AIDS were reported, an increase of more than 115 over the previous year.²¹ This figure is obtained from the Center for Disease Control Unit of the Ministry of Health of Eritrea that has a responsibility for the notification of any epidemic disease including HIV/AIDS, occurring in the country.

Without timely and appropriate interventions, HIV/AIDS will have an impact on all sectors within Eritrea's economy. Each major sector of the economy is likely to be adversely

affected and most households affected by HIV/AIDS are likely to be seriously impoverished. Increasing deaths particularly in the rural areas will result in deprivation of the agricultural sector of its required labor force. 74% of Eritrea's labor force is engaged in livestock and small-scale farming activities. Similar disruptive effects from HIV/AIDS are anticipated in all sectors of the economy. ¹²

HIV/AIDS could cause fundamental social and economic changes in Eritrea and this is likely to affect educational opportunities and the demand for labor. HIV/AIDS cause illness and death among adults in the most productive age groups. Costs to the economy of absenteeism and reduced productivity may be higher than the costs of eventual deaths. As a result, HIV/AIDS could significantly slow the growth of the labour force and may create labour shortages in several sectors including the education sector. ¹²

2.5 CONDOMS AND HIV PREVENTION

Although HIV prevalence in Eritrea is believed to be lower than that of its neighboring countries, the Government of Eritrea declared HIV/AIDS prevention a top health priority in order to contain the epidemic's spread. ⁵ In response to the HIV/AIDS epidemic, the state of Eritrea in its strong commitment to its aims in the prevention and control of the spread of this epidemic had established the National AIDS Coordination Committee (NACC) in 1998 made up of all concerned State Ministries and authorities chaired and guided by the Minister of Health. The NACC had evolved a truly national policy statement on HIV/AIDS, which had laid the foundation for a coherent, dynamic, and well coordinated National HIV/AIDS Prevention and Control Programme in Eritrea (NACP). ²²

The protection that proper use of latex condoms provides against HIV transmission is most evident from studies of discordant couples in which one member is infected with HIV and the other is not.²³ In a study of discordant couples in Europe, among 123 couples that reported consistent condom use, none of the uninfected partners became infected. In contrast, among the 122 couples that used condoms inconsistently, 12 of the uninfected partners became infected over a period of 20 months. ²³

As these studies indicate, condoms must be used consistently and correctly to provide maximum protection. Consistent use means using a condom from start to finish with each act of intercourse. Correct condom use should include the following steps:

- A new condom for each act of intercourse.
- The condom needs to be applied as soon as erection occurs and before any sexual contact (vaginal, anal, or oral).
- The tip of the condom needs to be held and unrolled onto the erect penis, leaving space at the tip of the condom, yet ensuring that no air is trapped in the condom's tip.
- Adequate lubrication is important, but only water-based lubricants, such as glycerin or lubricating jellies should be used. Oil – based lubricants, such as petroleum jelly, cold cream, hand lotion, or baby oil, can weaken the condom.
- On withdraw of the penis from the partner immediately after ejaculation, the condom needs to be firmly held to keep it from slipping off.²³

Furthermore, The American Journal of Public Health recently released a study that analysed the effect of condom availability programs in public high schools in Massachusetts.²⁴

Researchers compared students in schools with condom availability programs to students in schools without condom availability programs. They assessed participants' levels of sexual activity and condom use to determine how condom availability programs affected participants' sexual behavior, and also wanted to know if condom availability programs affected participants' use of other contraceptive methods. They used the multistage cluster sampling from the 1995 Massachusetts Youth Risk Behavior Survey to obtain a representative sample of adolescents enrolled in public high schools and randomly recruited 4,166 students from the 59 schools that participated in the study. Student participation was voluntary and researchers obtained parental consent before proceeding.²⁴ Participants completed anonymous surveys that asked them about the range of HIV/AIDS education they received in school and the extent of their sexual behavior, including how many sexual partners they had had and whether they had ever used condoms.²⁴ The researchers point out that because pre-program and post-program data were not obtained in schools that had condom availability programs, they could not determine whether the existence or lack of condom availability programs affected

participants' sexual behavior. Yet, they found that sexually active participants in schools with condom availability programs were more likely to use contraception at last intercourse than sexually active participants in schools without condom availability programs.²⁴

Additionally, the researchers determined that participants in schools with condom availability programs received a greater range of HIV/AIDS and condom instruction education than participants in schools without condom availability programs. The data revealed a significant, positive association with condom instruction education and participants who reported using condoms during sexual intercourse.²⁴

The researchers believe that skills-based prevention programs enhance the benefits of implementing condom availability programs by encouraging young people to use condoms consistently and correctly. They recommend implementing such complementary programs in order to delay the onset of sexual activity, and reduce the rates of unintended pregnancy and the spread of HIV/AIDS and STDs.²⁴

The Centers for Disease Control and Prevention of the Federal Government of America have conducted a Youth Risk Behavior Survey and Condom Use among sexually active high school students between 1993 and 1999. The study revealed that, condom use increased from 53 percent in 1993 to 58 percent in 1999, where it remained in 2001. STIs, HIV/AIDS, and unintended pregnancy are major health consequences associated with unprotected sexual activity. Although a similar percentage of teens are sexually active in the United States as in western European countries, the U.S. has much higher pregnancy and STI rates. This is due to low consistency and effectiveness of contraceptive use. Approximately one million teenage girls have unintended pregnancies in the U.S. every year, and nearly 4 million adolescents are diagnosed with an STI. Condoms, if used correctly, can greatly reduce, though not eliminate, the risk of both STIs and unwanted pregnancies.²⁵

2. 5.1 Adolescent Reproductive Health Issues in Eritrea

Studies show that more adolescents are becoming sexually active, and at an earlier age, than has been the case in the past.² However, pre-marital sexual experiences among adolescents vary markedly in different socio-cultural contexts. Results of a study of never-married adolescents aged 15-19 living in a number of countries in Africa and Asia indicated that young people in African countries were more sexual active than their peers in Asian countries.² The level of sexual activity among never-married young people in Asian countries has been negligible in the past reflecting strong cultural and social disapproval of pre-marital sexual relationships, especially for girls.²

Many adolescents complete their physical, emotional and psychological journey to adulthood in a changing world that contains both opportunities and changes. These changes take place at a different rate for each individual and can be a period of anxiety as well as pride. However, most adolescents are growing up without the opportunities, support systems and services they need to enable them to reach their full potential. Adolescents are exposed to risks and pressures on a scale that their parents did not face. Globalization has accelerated change while the structures that protected previous generations of young people are being eroded. Thus, investing in and protecting their development and participation rights will not only define their future but that of their communities and societies.²⁶

Most adolescents lack access to critical information and services to protect themselves from reproductive and sexual health problems that can have life-long effects on their ability to participate as citizens and productive members of society. This is true for most adolescents, especially so for those living under difficult circumstances, extreme economic hardships, displaced or disrupted by war or conflict. In war or in poverty, girls and sometimes boys are at risk of sexual abuse and exploitation just for economic survival. Adolescents of both sexes are sought as sex partners on the assumption that they are less likely to be HIV positive. They may abandon school to care for siblings or start work to fend for themselves.²⁶

Adolescence comes earlier in girls than in boys. Adolescence can be defined as persons in the 10-19 age group.²⁶ The younger adolescents are still boys and girls, most of them are not yet sexually active. The older adolescents are young women and men of whom many are sexually active, some married and some are parents. Adolescence is accompanied with physical, social and psychological development in the transition from childhood to adulthood. These changes bring about new challenges, new opportunities as well as new responsibilities and are a period in which individuals explore and develop their sexuality, gender and sex roles.²⁶

Today, the conditions of life for young people have also changed with its patterns of sexual behavior. There is earlier puberty, later marriage and a decline in family ties leading to less control and autonomy. There is also exposure to sexual stimuli through the mass media, the Internet and increased travels to the outside world. Adolescents constitute a major potential for socio-economic development of every country. In Eritrea, adolescents constitute 26.1% of the general population. The total fertility rate is 4.8 and growth rate is also 3% respectively. Studies indicate that an incredible 73.1% of adolescent women are either pregnant or nursing their first child. This seems very high. Although the Government has instituted a law prohibiting marriage before the age of eighteen (18) years, girls are still being married at an age of twelve to fifteen (12-15) years. Early child bearing not only has biomedical risk, but also reduces educational and economical opportunities especially for the young mothers.²⁶

Contraceptive use remains very low in Eritrea. Only 8% of currently married women were reported as using contraceptives, with 5% depending on modern methods and 3% relying on traditional methods.²⁷ The maternal mortality rate in Eritrea is among the highest in the world and sub-Saharan Africa. Even though health facility-based statistics show a decline, it is still 320 per 100,000 live births and is one of the major public health problems in Eritrea. Lack of desegregated data, makes it difficult to know the adolescent proportion. Abortion is also ranked 6th among the ten top causes of hospitalization. Most of these pregnancies are often unplanned and unintended. HIV/AIDS prevalence rate is 3%. The male to female ratio was 1:2 in the year 2000 and it is the number one leading cause of mortality in the health institutions in the population above five years.²⁶

Traditional reproductive practices including female genital mutilation are still practices in Eritrea. The demographic and health survey of 2002 indicated that 89% of women aged 15-49 years of the childbearing age group have some form of female genital mutilation (FGM).²⁶ Complications of FGM include haemorrhage, tetanus, dysmenorrhoea, obstetric fistulae, as well as the risk of HIV and other infections. Internal migration is documented in more than half of the women in Eritrea. They are not living in the area in which they were born. Young people are usually the sector of rural population most likely to migrate to urban areas, very often in search of education, employment and marriage.²⁶

With the above statistics, it is clear that Eritrea has a lot of adolescent sexual and reproductive health problems. The International Conference on Population Development identified Adolescent Reproductive Health as an area of focus in the promotion of reproductive health, gender equality and the empowerment of women and young people. After 30 years of struggle for independence and the recent war, Eritrean society is faced with the challenge of rebuilding and developing not only its physical and economic infrastructure, but its human potential as well. Similarly, policies with regard to macro and micro levels have a significant impact on adolescent development. The overriding issue of poverty, which affects the health, and development of the entire family has a profound effect on the adolescents.²⁶

The Eritrean government in an attempt to reduce poverty has embarked on development of its human resources, as economic development as well as personal fulfillment is strongly related to the health and education levels of the population. Adolescents therefore form a substantial proportion of the country's youth population considered to be the human resource base of the nation.²⁶

In view of the above discussion, it is obvious that adolescents are the nation's assets and must be educated, well informed and provided with improved health care services and facilities. The Eritrean Ministry of Health, in line with the government's macro policy to enhance the good health of the population, is also pursuing this objective in its strategic plan. In response to this, a nation wide needs assessment of adolescent sexual and reproductive health was conducted.²⁶

Tradition and culture inhibit parents from discussing sexual behavior with their children and schools are not well equipped to transmit relevant information about sexuality, STIs and the use of protection. Life skills education is not in the curriculum. Recent reports show a rising incidence of early pre-marital sex among Eritrean youth, resulting in increased teenage pregnancy, unsafe abortions, STIs and HIV/AIDS. ¹²

A 1996 KAP survey among high school students in Eritrea showed that over 71% had had their first sexual experience between the ages of 16-18 years and 2.8% have had two or three sexual partners. ²⁸ Other studies, including the 1995 NDHS and the Qualitative Research Study to Establish Barriers to Condom Use Amongst Youth in Eritrea indicate that condom use is low among the general population and that many people do not identify themselves to be at risk and feel uncomfortable to discuss or use condoms. ⁵

It is evident, based on this qualitative research study, that young men and women in Eritrea do NOT have sufficient information regarding HIV/AIDS, condom use or sexually – related issues in general. The perceived absence of sustained communications regarding HIV/ was said to be a hindrance to people taking the threat of the epidemic seriously; most agreed that occasional intensive campaigns have their merits but are not sufficient to ensure that people are constantly aware of the threat. Moreover, it was felt that information is often rather "generic" but does not provide answers to the specific concerns and questions that youth have about sexually related issues. For example, men often complained that they are told about HIV/AIDS and encouraged to use condoms but that they are not shown how to use them properly. ⁵

Not only was information said to be important in order to increase awareness of and thus reduce the spread of HIV, but also the youth felt that ongoing communications would allow Eritrean society to become more comfortable speaking about sex, condoms and HIV/AIDS. Indeed, and as elaborated on below, one of the main hindrances to condom use appears to be the inability of men and women to freely discuss topics relating to sex with each other, or with their elders. Many welcomed the opportunity offered by the focus group to air their concerns and advocated more such discussion groups in the community.

They expressed the need to make such conversation "normal" and "respectable" in the community.⁵

Condom use is rarely discussed between steady partners, and when it is, it is more often used for contraceptive purposes than for disease prevention. Introduction of a condom with a commercial sex worker or casual partner was said to be easier. Most agreed that, if a condom is used, the man usually introduces it (often without discussing this at all), and agreed that women, other than commercial sex workers, would never buy a condom.¹² The fact that it is considered culturally unacceptable to speak of sex and related issues is a major contributor to non-use of condoms. People said it was embarrassing, and indeed shameful, to discuss such issues and thus, even when youth are engaging in pre-marital sex, there is usually little or no discussion between partners regarding their mutual protection.⁵

Furthermore, it was agreed that youth found carrying condoms would be ostracized by society, with even more extreme reactions being anticipated by women. Many believed that they would be thrown out of their families or even killed if found with a condom. Although it was reported that some teachers are more understanding than are parents in this respect, generally it was agreed that carrying a condom is considered taboo by all. Finding someone with a condom amounted to his or her confession of engaging in pre-marital sex, and the fact that the people are being responsible by protecting themselves was said to pale into significance compared to the "crime" of engaging in sex before marriage. This lack of support by society for condom use is no doubt one of the difficult obstacles that need to be overcome in the fight against the spread of HIV in Eritrea. It was encouraging, however, to note that, when asked to typical condom users, participants in these groups generally used favorable terms such as "responsible", "mature" and "informed" or "educated". This holds some promise for the potential to change the image of a condom user, at least amongst the youth in Eritrea.⁵

The Ministry of Health of Eritrea through its Family and Reproductive Health Unit had objectives of the 2003 Integrated Reproductive Health/Safe Motherhood plan to increase knowledge, and promote behavioral change of Adolescents on Adolescents Sexual Reproductive Health; to improve Maternal and Neonatal health; to provide appropriate

management of Emergency Obstetric care; to ensure availability of quality antenatal care and Reproductive Health information and services; capacity building and supportive supervision; to ensure availability of policies and protocols for Reproductive health/Safe Motherhood Information; to strengthen the family and community response to Safe Motherhood Information. With respect to these objectives, several activities and its implementation status was also reviewed.²⁹

2. 5.2 Condom Use in High School Students

Since the emergence of HIV/AIDS in the world society, several research activities have been conducted to determine the epidemiological pattern in the high-risk group of high school students. These researches were aiming to identify appropriate and effective measures to prevent disease transmission. Of the many identified interventions against the disease, promotion of safer sex practices through health education was found to be relevant especially to those at high risk of contracting the disease. The ABC model (abstinence, be faithfulness and condom use) is followed worldwide. Unprotected sexual intercourse places young persons at risk for HIV, other STIs and unintended pregnancy.³⁰ In this report, examples regarding Youth Risk Behaviours Survey findings in the United States, a study of Knowledge, Attitudes, Beliefs, Practices of safer sex in Uganda and Condom Use as well as the Accuracy of AIDS Knowledge in Cote d' Ivoire are presented.

Example 1. Trends in sexual risk Behaviours among High School Students---United States, 1991 - 2001

In the United States, Responsible sexual behaviour among adolescents is one of the 10 leading health indicators of the national health objectives for 2010 in the country. To examine changes in sexual risk behaviour that occurred among high school students in the United States during 1991--2001, CDC analysed data from six national Youth Risk Behaviour surveys by using independent, three-stage cluster samples to obtain cross-sectional data representative of students in grades 9-12 in all 50 states across the District of Columbia. This report summarizes the results of the analysis, which indicate that, during 1991--2001, the percentage of U.S. high school students who ever had sexual

intercourse (females 51% in 1991 to 43% in 2001, males 57% in 1991 to 49% in 2001) and the percentage who had multiple sex partners (females 14% in 1991 to 11% in 2001, males 23% in 1991 to 17% in 2001) decreased. Among students who are currently sexually active (last sexual intercourse and condom use during the 3 months preceding the survey), the prevalence of condom use increased (females 38% to 51%, males 55% to 65% during 1991-2001 respectively), although it has levelled off since 1999. However, the percentage of these students who used alcohol or drugs before last sexual intercourse increased (females 17% to 21%, males 26% to 31% during 1991-2001). Despite decreases in some sexual risk behaviours, the survey emphasised intensive efforts be needed to prevent sexual risk behaviours to meet the national health objectives for responsible sexual behaviour. One of the national health objectives for 2010 is to increase from 85% to 95% the proportion of adolescents in grades 9-12 who have never had sexual intercourse, have had sexual intercourse but not during the preceding 3 months, or used a condom the last time they had sexual intercourse during the preceding 3 months. In 2001, 86% of high school students met this objective, compared with 80% in 1991.³⁰

Other two examples of research done in Uganda and Cote d' Ivoire are also presented. Both these studies were aimed to determine knowledge, attitudes and practices of safer sex methods among secondary school students in Uganda and condom use and accuracy of AIDS knowledge in Cote d'Ivoire. Information was needed about the knowledge and use of safer sex, factors that predict condom use and about the role of HIV/AIDS knowledge and sex difference in the use of condoms.

Example 2. A study of knowledge, attitudes, beliefs and practices of safer sex among secondary school students in Bushenyi district of Uganda in AIDS era.

In 1995 a sample of students from schools in Bushenyi district in Uganda were interviewed using a pre-tested, self-administered questionnaire to determine their knowledge, attitudes and practices of safer sex methods in the AIDS era. Most of them had access to electronic and print media. About 35.3% of the students had commenced sex between the age of 14 and 16 years. The main reasons for having sex were experimenting, body feeling (sex pleasure), copying others and being forced to have sex or being raped. The knowledge and use of safe sex practices was low. Only 21% of all the respondents were practicing safe sex. Sexual activities of students increased with

age, alcohol consumption, and depended on their gender. Use of safer sex methods increase with age, educational level and depended on the sex of students. Possible risks of contracting HIV infection among students were identified as inadequate knowledge of safer sex practices, refusal to use condoms because of myths and misconceptions about them, risky sexual behaviors (more than one partner and experimenting with sex) and being forced into sex by partner or being raped. This study emphasized the need to intensify sex education at both school and home. Students should have more information about safer sex methods and myths and misconceptions dispelled and Condoms should be easily accessible and affordable.³¹

Example 3. A study of Condom Use and the Accuracy of AIDS Knowledge in Cote d'Ivoire.

Condom use remains low in Cote d'Ivoire, despite an increasing prevalence of HIV and widespread awareness of how the virus is transmitted. Information is needed about characteristics that predict condom use and about the role of AIDS knowledge and sex differences in the use of condoms. The 1994 Cote d'Ivoire Demographic and Health Survey were analyzed for respondents who had sex in the two months before the survey. The accuracy of knowledge about AIDS did not significantly predict condom use. Older male respondents were less likely to use condoms at last intercourse than younger males. Married men, those who reported friends, family or neighbours as their only source of AIDS knowledge and uneducated and those who had learned about AIDS from family, friends or neighbours or television or radio used condoms much less than women with secondary or higher education.³²

The level of accuracy of AIDS knowledge did not predict the likelihood of recent condom use in this sample. The key factor was educational attainment in Cote d'Ivoire.

In contrast with Uganda and Cote d'Ivoire, condom use in Eritrea is showing encouraging results and will impose a positive impact on the HIV/AIDS infection rate in the near future.

2.5.3 Prevention of HIV in High School Students

HIV/AIDS and STIs are epidemic in Eritrea.¹¹ Public health statistics and reports indicate that increasing numbers of young people in their early teens are becoming involved in behavior that puts them at risk for infection.¹²

Currently the government of Eritrea offers education, which emphasizes abstinence as the only completely effective method of preventing infection. This is consistent with one of the objectives set by ESMG for the awareness marching that involves the gathering of many people, often youth from schools, to march along a specified route with banners containing messages related to HIV/AIDS. Besides youth, local administrators and teachers are often also involved. In some cases, the awareness marching is concluded with presentations on HIV/AIDS by health professionals, or combined with other activities, such as quiz contests. The purpose of the awareness marching was thought to be to increase awareness of the existence, severity of the epidemics of HIV/AIDS and to disseminate transmission and prevention messages as well as to obtain social support from parents, religious leaders and the wider society.³³

The ESMG has been distributing high quality affordable condoms, branded as Abusalama, throughout Eritrea since 1998. Abusalama was re-launched in June 2001 with a new packaging, logo and tagline and increased visibility through mass media and point of purchase materials. The Abusalama branded condoms are sold both in traditional outlets (i.e. pharmacies and drug vendors) and increasingly in non-traditional outlets (e.g. grocery stores, bars, hotels, and kiosks) with the aim of maximizing their accessibility.³⁴

At the urging of Ministry of Health, the Ministry of Education has enacted a policy to make condoms available for students in high schools. The initiative, which is part of the HAMSET project, was created to prevent the spread of HIV/AIDS among young people of the high schools of the Eritrean community through representatives of the NUEYS. The NUEYS association is meant to train Peer Health Educators who will use the association's activities as a channel of communication to their peers about their reproductive and sexual health.³

Examples

There are examples of initiatives in KwaZulu-Natal (KZN) in South Africa reporting on risk behaviors of high school youth from rural areas. Thirty percent of pupils were sexually active, and half had used a condom in the past 30 days when having sex. The males were 7 times more sexually active, but only one-third of males always used condoms. Nearly half had experienced coercive sex. Smoking and drinking alcohol was more common in males. Both these activities were associated with increased the likelihood of sexual activity.³⁵

Other examples of initiatives include reports from the results of a model HIV/AIDS prevention program for high school students in a semi-urban district of Metro Manila, in the Philippines. The objectives were to describe the sexual practices of high school students, the process of development of a school-based HIV/AIDS prevention program; and to evaluate the effect of this program on students' HIV/AIDS-related knowledge, attitudes and HIV/AIDS-preventive behaviors by means of self-administered questionnaires. A cluster-randomized, controlled trial with pretest/post-test evaluation was conducted in four public high schools. Of 845 high school students who participated in the baseline survey, 804 (95%) completed a post intervention questionnaire. An HIV/AIDS prevention program was developed by public high school teachers together with local HIV/AIDS experts, social scientists, and health educators to provide students with accurate information about HIV/AIDS, dispel misconceptions about casual contagion, to foster positive attitudes towards people with HIV/AIDS, and to develop skills aimed at assessing intended behavior. At baseline, 80 (11%) of 804 students reported ever having had sexual intercourse (mean age 14 years). 66 were male and 14 were female. Among these, condom use was low (24%). Reasons for failure to use condoms were use of other method (26%) and loss of sensitivity (25%). After implementation of the HIV/AIDS prevention program, the intervention group was more likely to answer correctly that HIV cannot be transmitted by mosquito bites, through a cough or sneeze, or by shaking hands with an infected person. Students who had attended the HIV/AIDS education program were less likely to avoid people with HIV/AIDS and were more compassionate toward them. Changes in knowledge about modes of HIV transmission were associated with improvements in preventive knowledge. While there was no statistically significant overall

effect on intended preventive behavior, the program appeared to delay the students' intended onset of sexual activity. The program was successful in increasing HIV/AIDS-related knowledge and improving attitudes toward people with HIV/AIDS.³⁶

Such successful interventions taken by other countries will serve as an example for Eritrea to take similar actions in reducing the youth's risk behaviors and thereby reduce the HIV/AIDS epidemic.

2.6 DOCUMENTED RESEARCH

In Eritrea, so far there are few documented research studies on this topic. Research done include the following: -

a) The Sexual Behavior, Knowledge and Practice of HIV/AIDS and STIs of High School Students in Eritrea, MOH/CDC, 1996.

This 1996 survey among high school students in Eritrea showed that over 71% had their first sexual experience between the ages of 16 – 18 years and 28% have had two or three sexual partners.²⁸

b) In early 2001, CTMRE Consultancy Service on behalf of The Ministry of Health carried out an HIV sero-prevalence linked with an HIV/AIDS/STI behavioral survey focused on five population subgroups in Eritrea.⁹

c) The 1995 National Demographic and Health Survey.³⁷

d) The Qualitative Research Study to Establish Barriers to Condom Use among Youth in Eritrea.

This study found that, condom use is low among the general population and that many people do not identify themselves to be at risk and feel uncomfortable to discuss or use condoms.⁵

e) Target Research (pvt) ltd (Zimbabwe). Research Report on Survey to Establish Knowledge, Attitudes and Practices Regarding HIV/AIDS, Sexual Behavior, condom and Contraceptive Use Amongst Adults in Eritrea, July 2001.³⁴

f) Target Research (pvt) ltd (Zimbabwe). Research Report on Condom Distribution Survey, October 2002.³⁸

2.7 CURRENT UNDERSTANDING OF THE RESEARCH QUESTION IN THE STUDY

Many people, especially youth are being infected with HIV/AIDS in Eritrea. One way to protect against being infected with HIV/AIDS is to know more about HIV/AIDS and to have the knowledge, attitude and beliefs about safer sexual practices including using condoms. This may require behavior change.

As prevention is the most effective strategy against the spread of HIV/AIDS, every person should know how to avoid getting and spreading the disease. Many theories have been developed to facilitate behavior change. Attitudes, social influences and self –expectations constitute the belief system of an individual that determines a person's intention to perform a behavior. Health education is often used to motivate people to change their behavior by indicating the personal and social advantages of a new behavior and to indicate the feasibility of this new behavior. Health educational campaigns are thus trying to change a person's ideas and cognitions, regarding this behavior. Three main classes of cognitive factors can be distinguished: attitudes, social influences and self-efficacy expectations. These factors determine a persons' intention to change his/her behavior. Demographic, sociological and personality factors also influence persons' intention and behavior by influencing persons' attitudinal, social and self-efficacy expectations. This model is referred to as the ASE model (Attitude-Social influence-Efficacy-model).¹⁵

The fact that knowledge of HIV/AIDS does not increase use of condoms suggests that other determinants need to be considered. Based on this concept, the Attitude-Social influence-Efficacy (ASE) model seems rational to be used as a theoretical framework in this study.

The Attitude-Social influence-Efficacy (ASE) model analyzes why a target group, like the youth in our survey, engage in a particular unhealthy behavior. This theoretical model also suggests that healthy behavior is determined by a person's motivation (or intention) to perform the behaviour, provided that they are capable of realizing their intention and are not hindered by barriers.¹⁵

Three types of motivational factors determine intentions: attitudes, social influences, and self- efficacy expectations.

Attitudes - refer to a persons overall evaluation of the behavior (e.g. safe and unsafe sex behavior), which is determined by the weighing of the perceived advantages and disadvantages of the behavior. ¹⁵

Social influence- social influences can be described as the process whereby people directly or indirectly influence the thoughts, feelings and actions of others. With respect to the impact of social influence, a distinction between social norms, perceived behavior of others and social support and social pressure can be made. ¹⁵

Self efficacy- refers to a person's expectation, regarding his capability to realize a (desired) behavior. It does not reflect a person's skills but judgments of what one can do with whatever skills one possesses. Therefore, self-efficacy expectations relate to the beliefs an individual has about his capabilities of performing specific behaviors in specific situations. They are determined by the (perception of) skills a person has to be able to perform a desired behavior. (E.g., Am I able to refrain from unsafe sex practices?). ¹⁵

Intention to change- the theory of reasoned action utilizes the concept of intention to describe the likelihood of whether people plan to change their behavior. By removing existing barriers, one can successfully plan and maintain a healthy behavior. ¹⁵

In short, this theoretical framework analyzes whether a target group (like youth in our example) is convinced of the advantages of the healthy behavior, receives sufficient social encouragement and has high self-efficacy expectations, and to formulate recommendations about the goals that should be accomplished to create a more positive motivation for adopting particular healthy behaviors.

2.8 SUMMARY

The literature review identifies young people as a vulnerable risk group for HIV/AIDS infection in Eritrea and has described the HIV/AIDS situation at a global, regional and national level. It discusses useful intervention programmes with encouraging results.

3.1 STUDY DESIGN

This observational, cross sectional study investigated urban high school students' knowledge, attitude and beliefs, practices of HIV/AIDS, including below 15 and up to 25 years old pupils reported sexual behavior and condom use. The data was collected from structured self-administered questionnaires by the students' who gave full informed consent.

3.2 STUDY AREA

The study area was in the capital city, Asmara. In this city, there are more than 10 junior and senior secondary schools. Most of these schools are placed in the center of the city. There is no problem in reaching them, almost 1-2 km far apart from each other. The schools from which the study was undertaken were named as Asmara Comprehensive Senior secondary, Semaatat Senior, Ibrahim Sultan Junior and Senior and Issak Tweldemedhen Senior secondary schools. They enroll students relatively of the same age having 55-60 students in each class of 9th, 10th and 11th grades.

3.3 STUDY PERIOD

The data collection was carried out between 27 and 31 of June 2004 focused on the population subgroups of the five high schools located in the capital city, Asmara.

3.4 STUDY POPULATION

The study population comprises urban high school students, in grade 9, 10 and 11 in Asmara the capital of Eritrea. At present grade 12 students are being enrolled in remote areas of Eritrea as they have additional national responsibilities related to the national aims and interests. The selected study population consisting of urban high school students is a fairly homogenous group living in the city is easy to communicate with and share common ideas. They are well organized by the NUEYS and get timely information

concerning health, education, environment, culture and gender. In rural schools students are highly dispersed and have time constraints, lack of transportation and money. Access to these children would be much more difficult. Only 23.4% of children of high school age are attending school in Eritrea and 19% are in urban areas. ³⁹

3.5 SAMPLE SIZE

The intended total sample size was 845. This was based on the assumption that condom use by the high school students will be 50% using the formula: ⁴⁰

$$n = \frac{p(1-p)(1.96)^2}{d^2}$$

d: size of the difference we would be able to detect which was 0.5

p: the proportion we expect to find which 0.5 was

1.96 is appropriate for two-tailed test at a 95% level of significance, then the sample size should be $n = \frac{0.5 \times (1-0.5) \times (1.96)^2}{0.05^2} = 384$

default effect value $d_{\text{eff}} = 2$. Therefore, the actual sample should be $2 \times 384 = 768$

Considering possible absenteeism of 10% of the students, the contingency should be:

$768 \times 10 / 100 = 77$ Hence, the final sample was calculated as: $768 + 77 = 845$

3.5.1 Sample selection

Five of the ten high schools in Asmara were randomly selected to be part of the study. One class from the 9th, 10th and 11th grades respectively was then randomly selected. All the registered students in each class were included in the study sample. The schools serve slightly different socioeconomic strata and enroll students from low, middle and high-income families.

3.5.2 Sampling Strategy and Technique

The sampling frame for the study was a list of high schools under the cities education administration and included the class sizes. This was obtained from the Ministry of Education. There are 10 similar high schools in Asmara, Zoba Maekel. Using a simple random sample technique five high schools were selected. To meet the required sample size, a stratified sample of all the learners in one randomly chosen class of grade 9, 10 and 11 from the five selected high schools were enrolled in the study.

3.6 ETHICAL CONSIDERATIONS

Ethical clearance to conduct the study was obtained from the Nelson R Mandela School of Medicine's Research and Ethics Committee as well as from the University of Asmara Medical Research Ethics committee and Ministry of Health Research Ethics Committee. Permission was obtained from the principals at the schools and parents provided written informed consent. Pupils and their representatives provided written informed consent as well. Permission was also obtained from the Department of Education and the Eritrean Defense Force Health Services Department to conduct the survey in the schools. Moreover, the data collectors were also trained and reminded to consider ethical issues. This study raised certain difficult ethical issues which included such issues as the role of parental consent, obtaining consent from 15 year olds and discussion of sensitive topics with adolescents.

3.7 DEVELOPMENT OF QUESTIONNAIRE

In order to conduct the study, it was necessary to develop a questionnaire. The indicators and variables included in the questionnaire were revised from different literature studies done internationally and were developed for the Eritrean context. The process was informed by a number of lecturers at the Nelson R Mandela School of Medicine, Department of Community Health, University of KwaZulu-Natal and College of Health Science of University of Asmara. Questions that are likely to affect sexual behavior such as alcohol use were also included in the questionnaire. The questionnaire was translated to the local language (Tigrigna) and piloted on a similar study population and amended as needed where ambiguity of the translated questionnaire in the questions was picked up. The translated questionnaire was printed by a private business.

3.8 PRETEST

Before administering the questionnaire to the study participants, several processes were undertaken to refine the questionnaire. Firstly, the prepared questionnaire was passed to three reviewers considered to be able to offer constructive criticisms and comment on it.

These expert comments were incorporated into the questionnaire. A pre-test on the study instrument was conducted on a similar population to the respondent population (20 students, 10 males and 10 females) for the study with the objectives of identifying any weaknesses in questionnaire design as well as providing practice for the study teams. Final modifications were then made to make the questionnaire appropriate for the chosen study population of Eritrean secondary school pupils.

3.9 RELIABILITY

The questionnaire was self-applied and anonymous so that the reliability of the respondents could not be verified.

3.10 MINIMIZING BIAS

The validity of responses the study was promoted by preparing questionnaires that were completed anonymously with no teacher or administrator present whilst students completed the questionnaire. Any body having close and work relationship with participants is not involved in the survey. Clear and concise information for participants is delivered and written informed consent is obtained from learners. Data collectors are also adequately trained to administer the questionnaires and uphold the ethical issues with regard to the participants' responses. Moreover, everything possible is devoted (human and physical resources) to confirm responses validity and reflect participants' willingness to understand the raised issue.

3.10.1 Measures to Ensure Validity

Measures were taken to ensure validity of the methodology employed in this research. To ensure that another person did not influence the reply given by any student, each student was provided with enough space and it was emphasized that student replies would be anonymous and should reflect their own experiences and point of view.

3.11 DATA MANAGEMENT

The data collection tool was a self-applied questionnaire that was handed to each student once they had given full informed consent to say they were happy to be part of the study. Self-administered questionnaires were used to permit confidential responses to sensitive

questions avoid the interposition of an interviewer and increasing information bias. The responses were computer-coded.⁴¹

3.11.1 Study Instrument

The structured self-administered questionnaire covered the respondents background profile, knowledge, attitude and belief of HIV/AIDS, sexual practices and investigated the use of condoms among urban high school students in Asmara.

A range of data variables was included on the questionnaire. These included:

- Socio-demographic variables, age, gender, level of schooling, marital status, religion, alcohol and tobacco use.
- Sexual risk behaviors including - level of awareness of risky sexual practices.
- Knowledge, attitude and beliefs about HIV/AIDS and STIs.
- Attitude and belief on the use of condom for HIV/AIDS and STI prevention.
- Social influence concerning condom use during sexual intercourse.
- Self-efficacy concerning condom use.
- Intention to use condoms.

3.11.2 Collection of the Data

The questionnaire was administered by a group of 15 data collectors who were given a one-day training workshop on all aspects of the study and questionnaire. They were instructed on how to administer and collect the data at the five randomly selected high schools in Asmara. The time when the questionnaires were handed out was decided on in agreement with the respective high school directors. In addition, it was proposed that the questionnaire was conducted anonymously to study participants and care was taken to ensure respondents' confidentiality. The data collectors were from the University of Asmara and were also trained to uphold the ethics expected of the researcher working with highly sensitive information. Between 55 – 60 students in each grade of 9th, 10th and 11th of the respective high schools completed the questionnaire.

3.12 DATA ANALYSIS

The SPSS statistical software package was employed for data entry and analysis. Data input was carried out by two data entry personnel who had been trained to use the

SPSS/PC + data entry package. The data were thoroughly checked and cleaned before analysis. The data was analyzed using SPSS 11.0 for windows after a range of variables based on the study instrument was coded.

3.13 LIMITATIONS

Some of the students might have been reserved to express their actual experiences merely due to the highly conservative society in which they are raised. The study does not reflect behaviour, rather only knowledge and attitude. Because the schools selected randomly were near each other and very accessible, having good transportation system and e-mail communication there was no geographical limitation encountered. However, due to the society's culture, to speak about sex and related issues is taboo in Eritrea and there might be population limitation.¹³ There was no time limitation either to the researcher to distribute and collect the data or to the participants to answer questions, because it was done at one given (specific) time to all the schools studied.

3.14 SUMMARY

This cross sectional survey of high school youth aimed to assess their knowledge, attitude, and belief about HIV/AIDS, sexual behavior and condom use. The research instrument for data collection was a structured self-administered questionnaire given with full informed consent of participants.

The study population was a stratified random sample of urban high school students in grade 9, 10 and 11 and the selection was based on five randomly chosen high schools out of ten high schools in Asmara.

CHAPTER FOUR

RESULTS

4.1 INTRODUCTION

In this section, the results of the study are presented. Responses of high school students in Asmara were recorded. A total of 845 questionnaires were distributed at schools in the study area. Only 754 (89.2%) questionnaires were returned. Most of those who failed to respond were out of their class –rooms for a range of reasons on the day the questionnaire was administered. Data on their demographic profile, knowledge, attitude and belief of HIV/AIDS as well as sexual practices and condom usage are reported.

4.2 DATA ANALYSIS

The following section will present the analysis and findings of the questionnaire in detail. Regarding obstacles in data collection and analysis, there were no problems encountered during the study.

4.2.1 Demographic Characteristics Of Study Participants

There were 283 (37%) grade 9 students, 249 (33%) grade 10 and 222 (29%) grade 11 students who participated in the study. All the 754 students attending the five randomly selected high schools signed the informed consent form after having been given the information sheet. The sex ratio of respondents in this study was 1.3 males to 1 female. Most respondents (80%) were Coptic Orthodox Christians. The next biggest group was Moslem (8%).

The mean age of female and male students is 16.7 (SD -1.5) and 17.5 (SD - 2.1) years respectively. The 16-20 year old group comprised 68% of the sample (Figure 4.1). There was a 12-year age range among the respondents, with the oldest being 25 and the youngest 13 years old. The inter-quartile range was 16 (1st quartile) and 22 (3rd quartile). The average age of males was significantly older than females ($P < 0.05$). Only 1.9% of the respondents were married (11 female and 3 males). Most (86%) of the respondents were born in a town or city. The majority (92%) of high school students lived with their parents, 3% lived alone, and 4% lived with their relatives.

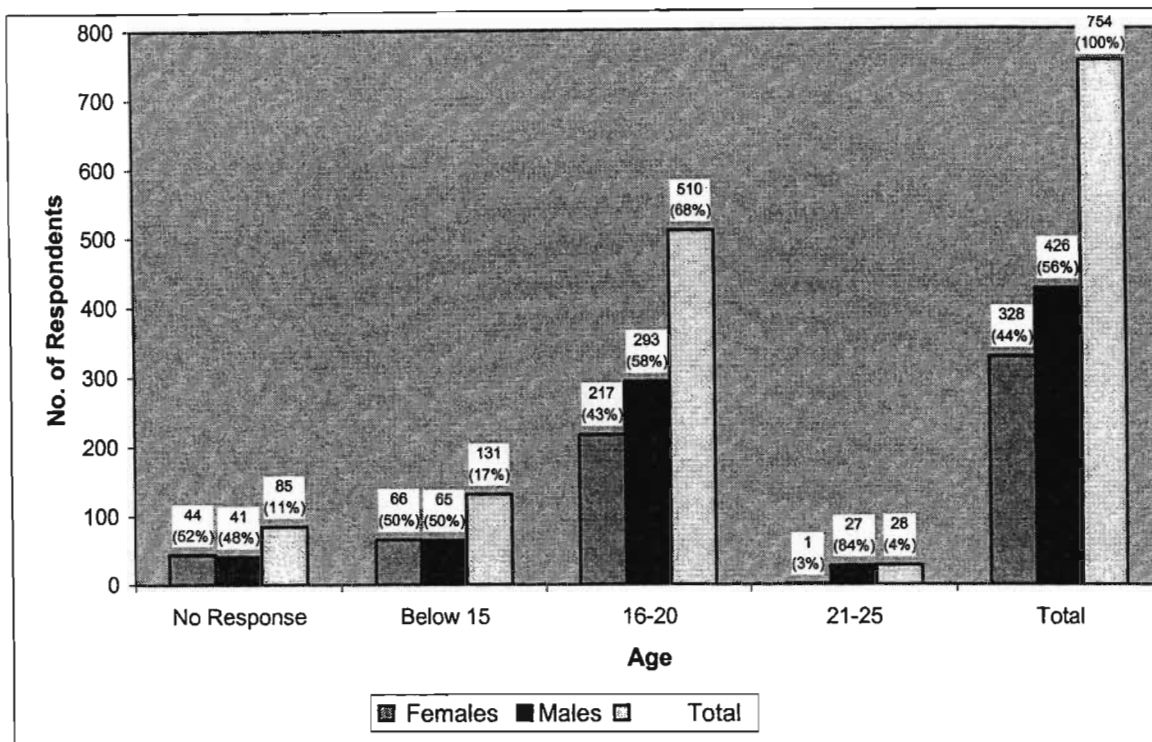


Figure 4.1: Age and Sex Distribution of Male and Female High School Student Respondent in Asmara, 2004 (N= 754).

Smoking is culturally forbidden among students attending school. Smokers were thus risk takers. Only 6% of the participants said that they smoke tobacco, but 25% said that a friend smoked. The correlation coefficient between smoking and being sexually active was 0.3. There was a positive correlation between smoking and sexual activity.

Most of the respondents (82%) reported that they never used alcohol. Only 3% said they used alcohol regularly, three-quarters being male and 40% were around the age of 18 years. Fourteen percent used alcohol sometimes and 79% of these were males.

4.2.2 Knowledge, Attitude, Belief about HIV/AIDS and STIs

Data was obtained on the respondent's level of knowledge about HIV/AIDS. The majority of respondents (95%) indicated that they had heard of HIV/AIDS. Only 13 (2%) had not heard of HIV/AIDS and 3% were not sure.

Most students accessed knowledge about HIV/AIDS from the mass media (41%) and health educators (32%). Other sources included friends and relatives (13%) and parents (9%).

A third (34%) of the respondents indicated that they knew somebody who was infected with HIV/AIDS, 53% did not know anybody who had HIV/AIDS, and 12% were not sure, with 1% of students not responding.

Most (87%) respondents knew that HIV causes AIDS, although 7% were not sure and 18 students (2%) did not respond at all (Table 4.2). Only 30 students (4%) did not know that HIV causes AIDS. Those who were not sure about this and who did not respond the question including those who reported that HIV does not cause AIDS were mostly males below age 15 and grade 9 students.

A majority (85%) of the respondents said that a person could not get HIV from a mosquito bite. However 6% believed that mosquitoes could transmit it and 8% were not sure about this. These who reported mosquitoes could transmit HIV and those who were not sure (14%) were unevenly distributed among male and female grade 10 students.

Table 4.1: Students Knowledge about HIV/AIDS (N=754).

Question	Yes		No		Unsure		No Response	
	Count	%	Count	%	Count	%	Count	%
Does HIV cause AIDS?	654	87	30	4	52	7	18	2
Can a person get HIV from mosquito bites?	43	6	639	85	64	8	8	1
Is there a difference between HIV & AIDS?	529	70	83	11	127	17	15	2

Given the number of misconceptions that exist about HIV and AIDS, respondents were asked to indicate whether there was a difference between the two. The majority of respondents (70%) indicated that there was a difference, 11% stated there was no difference while 17% were not sure (Table 4.1).

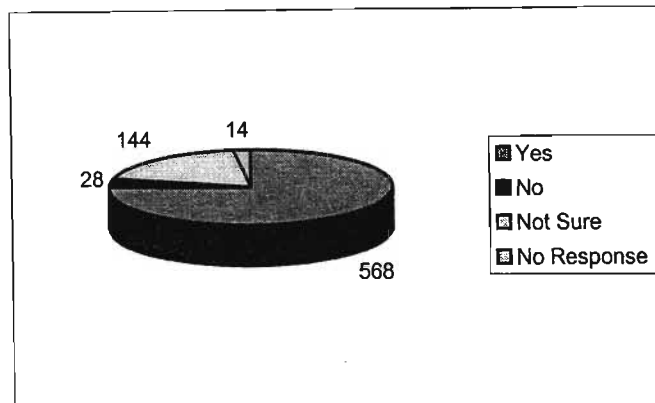


Figure 4.2: Students' Knowledge of whether Sexually Transmitted Infections (STIs) Increase the Risk of HIV Infection or Not (N = 754).

Respondents were asked whether or not sexually transmitted infections (STIs) increase the risk of HIV infection. Three quarters of the students confirmed this, 4% refuted this and 21% were not sure of an association between HIV/AIDS and STIs (Figure 4.2).

Most students (88%) knew that a person could not get HIV by sharing a meal with someone who was infected, while 5% said yes and 7% were not sure.

Most students (79%) correctly understood that a woman infected with HIV could transmit the virus to her newborn child through breastfeeding, but 13% were not sure whether breast-feeding could transmit HIV.

About two third (64%) knew that a mother could transmit HIV vertically to her unborn child, with 16% not knowing this and 19% not being sure about this fact.

Of the 426 male students who participated in the study, 93% indicated that people could protect themselves from HIV by abstaining from sexual intercourse. Only 5% did not know this. Of the 328 female participants, 93% knew that one can prevent infection by abstinence and 5% did not know this.

The study also sought to test respondents' basic knowledge regarding the treatment of HIV/AIDS. Most (84%) of the respondents indicated there was no cure for HIV/AIDS, 9% were not sure, and 7% believed a cure existed. The present study showed differences

among male and female respondents in knowledge with regard to the treatment and existence of cure. Of those who replied that no cure exists for HIV/AIDS 44% are females and 56% are males. Similarly, of those who believed that a cure exists for HIV/AIDS, 56% are males and 44% are females. Few participants (63% males & 37% females) were not sure to the fact. Further, 86% Orthodox Christians and 49% Moslems believed HIV/AIDS can not be cured and 7% & 7% respectively replied yes there is treatment while 8% & 15% were not sure. Moreover, 89% of below 15 years, 84% of 16 – 20 years and 86% of 21-25 age groups replied there is no cure while 4%, 8% and 4% of the age's group respectively believed a cure existed.

4.2.3 Sex Practice of Respondent

The study asked students' whether they ever had sexual intercourse. Of this group 147 (19%) students reported that they had ever had sexual intercourse (Table 4.2)

Table 4.2: Students having had Sex.

Response	No. of males (%)	No. of females (%)	Total (%)
Yes	125(16.6%)	22(2.9%)	147(19.5%)
No	288(38.2%)	294(39.0%)	582(77.2%)
No response	13(1.7%)	12(1.6%)	25(3.3%)
Total	426(56.5%)	328(43.5%)	754(100.0%)

4.2.3.1 Age of Sexual Debut

Of the 147 participants who reported ever having had sex 27% of males and 3% of the females said their sexual debut was below 15 years of age, while a further 52% of males and 10% of females had had sex between 16-20 years of age. Of those who had ever had sex, 46% (68 pupils) reported that they were currently sexually active (Figure 4.3)

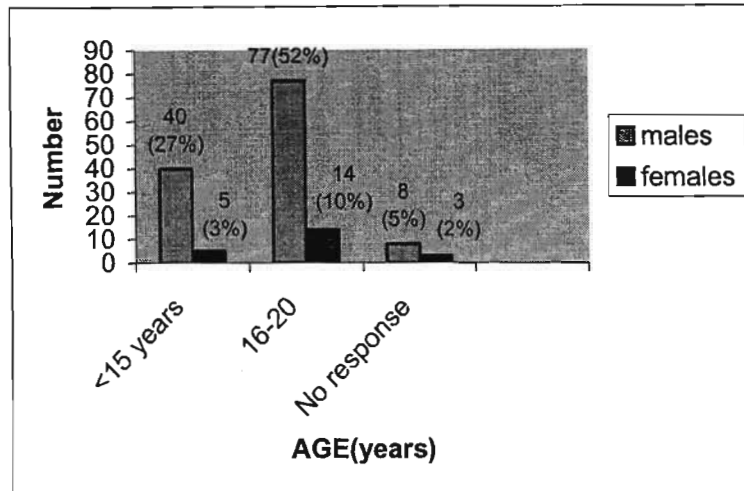


Figure 4.3: Age Distribution at First Sex

Table 4.4 shows the findings of gender differences in sexual practices in number and percentage, where the total number of sexually active students included in the analysis is 147. Students who reported ever had sex were 125 (17%) males and 22 (3%) females ($p < 0.05$). Moreover, 58 (8%) males and 10 (1%) females indicated that they are currently sexually active ($p < 0.05$). As shown from the table, both findings are statistically significant.

Table 4.3: Gender Differences in Sexual Practices, number (%) (N=147)

	Males		Females		P-value
Students ever had sex	125	16.6%	22	2.9%	$P < 0.05$
Age of sexual initiation <15 years	40	27.2%	5	3.4%	$P > 0.05$
16-20 years	77	52.4%	14	9.5%	
No response	8	5.4%	3	2.0%	
Currently sexually active	58	7.7%	10	1.3%	$P < 0.05$
Number of sexual partners -- one	23	34.0%	6	9.0%	$P > 0.05$
Two	6	9.0%			
More than two	24	35.0%	3	4.0%	
None	5	7.0%	1	2.0%	

When those who were sexually active were asked to indicate the number of current sexual partners, 34% males and 9% females said "one", 9% of males only had two, and 35% males and 4% females had had more than two while 7% males and 2% females reported none (Figure 4.3).

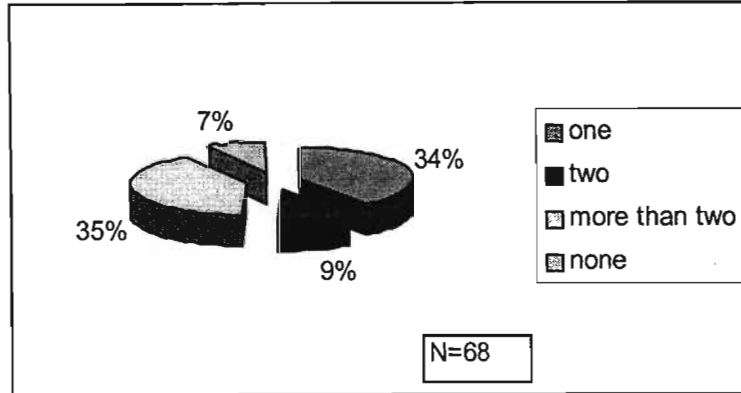


Figure 4.4: Number of Current Sexual Partners of Sexually Active Students.

4.2.4 Knowledge, Belief and Usage of Condom of Respondent

In this section of the questionnaire, students were asked about their knowledge, attitudes and practice of condom use.

Table 4.4: Students' Feelings about Keeping Condoms in Their Pocket

Response	Frequency	Percent
Right	437	58.0
Wrong	198	26.3
Not sure	87	11.5
No Response	32	4.2
Total	754	100.0

Students were asked about their feelings about keeping condoms in their pocket. The majority of students (58%) thought that it was right to keep a condom handy in their pocket, while 26% reported that it was wrong, 11% were not sure, and 4% did not respond (Table 4.4).

Of those who had experienced sex before 54% believed that condoms do reduce sex pleasure.

The vast majority (80%) thought condoms were affordable. Only 4% of the 754 respondents thought they were not affordable, while 13% were not sure (Table 4.5).

Table 4.5: Perception of whether Condoms were Affordable?

Response	Frequency	Percent
Yes	605	80.2
No	27	3.6
Not sure	99	13.1
No Response	23	3.1
Total	754	100

Most of the 147 sexually active males (36%) and few females (2%) did not believe that putting on a condom would interrupt sexual pleasure while 35% males and 7% females do believe.

Only 70% of males and 72% of females believed that people could protect themselves from HIV by using a condom correctly every time they have sex. The rest (16% males and 11% females) were not sure of the protective role of condoms, 12% and 13% males and females respectively did not think that condoms were protective against HIV infection.

Two thirds of those who did not believe in the protective role of condom were from the 16-20 year old age group.

Table 4.6: Students Perceptions about Condom Use (N=754)

	Right	Wrong	Unsure	No response	P -value
Keeping a condom in pocket					
Male	272	98	44	12	P<0.05
Female	165	100	44	19	
Affordability of condoms					
Male	355	19	45	7	P<0.05
Female	250	8	54	16	

Table 4.6 shows the findings on students' perceptions about condoms use in number, where the total number of students included in the analysis is 754. Most (272 male and 165 female) respondents reported that keeping a condom in pocket is right ($p < 0.05$) and

355 male and 250 female respondents thought that condom are affordable ($p < 0.05$) indicating that both findings are statistically significant.

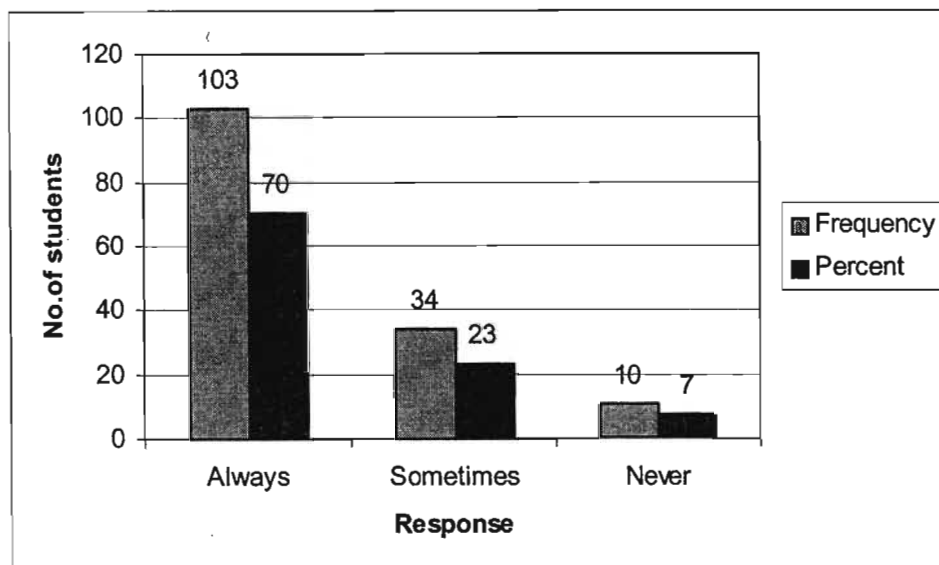


Figure 4.5: Rate of Condom Use among High School Students in Asmara, 2004 (N= 147).

Of the 68 who were currently sexually active, 70% always used condoms, 23% used them sometimes and 7% indicated that they never used them (Figure 4.5).

Table 4.7: Last Time Condom Use among High School Students in Asmara, 2004.

Response	Frequency	Percent
Within the last two months	67	45.6
2 – 6 months	23	15.6
Over 6 months	57	38.8
Total	147	100.0

This section explored respondents' last time condom use and 46% of those who reported had sex before used condom within the last two months. However, there were 16% who used condoms between 2 – 6 months and 39% had used them more than six months previously (Table 4.7).

Table 4.8: Use of Condom for Casual Sex

Response	Number	Percent
Yes	56	38.1
No	77	52.4
No response	14	9.5
Total	147	100.0

Only 38% had used condoms for casual sex. Most (91%) would be happy to use a condom with their regular partner (Table 4.8).

Table 4.9: Students who felt protected by using Condom.

Response	Frequency	Percent
Yes	331	43.9
No	88	11.7
Not sure	190	25.2
No Response	145	19.2
Total	754	100.0

Less than half (44 %) of the respondents felt they would be protected by using a condom, 12 % reported not feeling protected but 25% were not sure and 19 % did not respond to the question (Table 4.9).

Table 4.10: Sexually experienced Students perceptions about Condom Use (N=147)

	Use condoms	Don't Use condoms	p- value
Reduce sexual pleasure			
Male	56	13	p>0.05
Female	7	14	
Interrupt sex			
Male	43	9	p>0.05
Female	7	4	
Affordable			
Male	90	15	P<0.05
Female	9	5	
Protect from HIV			
Male	76	10	P<0.05
Female	9	5	

Table 4.10 shows sexually experienced students' perceptions about condom use in number, where the total number of students included in the analysis is 147. Of those who

use condoms, 56 males and 7 females ($p>0.05$) indicated that condom use reduce sexual pleasure which is statistically non significant. Whereas, those who do not use condoms, 13 males and 14 females reported that condoms do reduce sexual pleasure ($p>0.05$). Further, 43 males and 7 females who use condoms believed also condom use interrupt sex ($p>0.05$) while 9 males and 4 females who do not use condoms reported this similarly to be the case. Moreover, 90 males and 9 females who use condoms said condoms are affordable ($p<0.05$) and 15 males & 5 females who do not use condoms reported the same and is statistically significant. Again of those who use condoms, 76 males and 9 females considered condom use could protect from HIV ($p<0.05$) whereas 10 males and 5 females who don't use condoms indicated similarly and the finding is statistically significant.

Table 4.11: Sexually experienced Students Use of Condoms (N= 147)

Casual partners	Gender	Number	p-value
	Male	44	$p>0.05$
	Female	6	
Regular partners			
	Male	71	$p>0.05$
	Female	7	

Table 4.11 shows a greater number (44) of sexually experienced male students used condom with their casual partners than female students (6) in which p-value >0.05 is statistically non significant. Likewise, a greater proportion (71) of sexually male students used condoms with their regular partners than female students (7) p-value >0.05 .

Table 4.12: Reported having suffered an STI Infection.

Response	Number	Percent
Yes	37	25.2
No	110	74.8
Not sure	0	0
No response	0	0
Total	147	100.0

A quarter reported having had an STI (Table 4.12).

Respondents were asked whether they would feel confident to talk to their boyfriend or girlfriend about using a condom. Only 29% said they were very comfortable to broach this

subject, 39% said they were not comfortable at all to talk about condoms. Nineteen percent were in between and 12% did not respond to this question.

Table 4. 13: Students' Feelings When Buying Condoms from Pharmacy.

Response	Frequency	Percent
I feel proud	129	17.1
Confident and protected	118	15.6
I feel Shy	146	19.4
I feel Guilt conscious	59	7.8
No feeling	81	10.7
No response	221	29.3
Total	754	100

Nearly one- third (221) of the students did not respond the question about how they would feel purchasing a condom from the pharmacy. The responses varied with 19% saying they would be shy, 8% would feel guilty and 29% did not respond at all (Table 4.13).

In exploring sexually active students about how they feel in buying condoms from pharmacy whenever they are in need of it, 32% & 11% felt proud and confident respectively, 31% & 8% felt shy and guilt respectively while 16% others felt nothing and 3% did not respond the question (Table 4.14).

Table 4.14: Sexually active students' Feelings when buying condoms from Pharmacy (N=147)

Response	Frequency	Percent
I feel proud	47	32.0
Confident and protected	16	10.9
I feel Shy	46	31.3
I feel Guilt conscious	11	7.5
No feeling	23	15.6
No response	4	2.7
Total	147	100.0

A third of those who said they were sexually active said that they had sex whilst being drunk

Two-thirds of the sexually active students said that they had refused sex due to the unavailability of a condom.

4.2.5 Self- Efficacy of Respondent

Despite not all sexually active students using condoms they mostly (92%) said they could use a condom if they had one and felt they needed to.

Similarly, in the situation of using condom with a casual partner, 44% of those sexually active respondents said they were very confident about using a condom (Table 4.15).

Table 4.15: Students' Confidence in Using Condom with Their Casual Partners (N=147)

Response	Frequency	Percent
Very confident	65	44.2
A little confident	58	39.5
Not at all confident	22	14.9
No response	2	1.4
Total	147	100.0

Table 4.16: Students' Confidence to Use Condom Every Time Engaged in Sex

Response	Frequency	Percent
Very confident	89	60.5
A little confident	58	39.5
Total	147	100.0

Most sexually active students (60%) felt very confident of using a condom every time they engage in sex (Table 4.16).

Table 4.17: Students' Likelihood of Using Condoms While Drinking Alcohol

Response	Frequency	Percent
Yes	107	72.8
No	6	4.1
Not sure	34	23.1
Total	147	100.0

The sexually active participants were also asked to assess their own likelihood of using condoms while drinking alcohol and 73% said they thought they would (Table 4.17)

Table 4.18: Students' Ability of refusing Sex if Partner did not want to Use a Condom

Response	Frequency	Percent
Yes	132	89.8
No	11	7.5
Not sure	4	2.7
Total	147	100.0

Out of those sexually active participants 90% stated they felt that they were able to refuse sex if their partner did not want to use a condom. Only 7% said they would not be able to do this (Table 4.18).

4.2.6 Social Influence of Respondent

Students were asked about their friends' use of condoms, 20% said all of them used condoms, 14% said some used them (Figure 4.6).

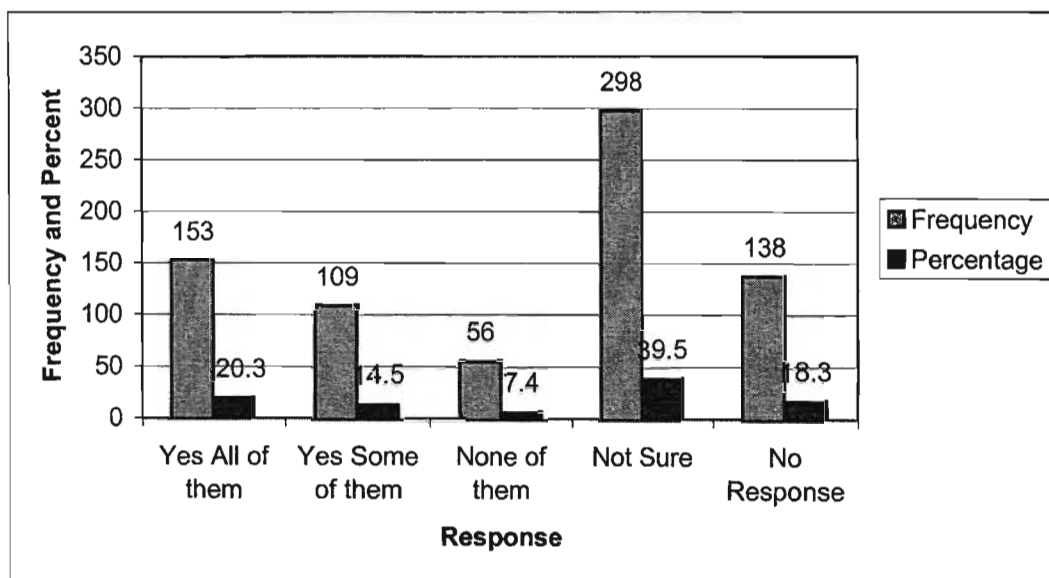


Figure 4.6: Do your friends use condoms?

More than a third of the survey participants (37%) had stated that their friends would support them to use condoms while 21% said they would not get support to use a condom.

Other social influence enquired about included the following:

- When students were asked about whether or not their friends encourage them to have only one partner, 66% of participants said yes and 15% said no (Table 4.19).

Table 4.19: Do your friends encourage you to have only one partner?

Response	Frequency	Percent
Yes	500	66.3
No	112	14.9
Not sure	2	.3
No response	140	18.6
Total	754	100.0

- Similarly, the survey participants were also asked whether their parents support them to use condoms, 19% of respondents said yes and 40% responded no (Table 4.20).

Table 4.20: Do your parents support you to use condoms?

Response	Frequency	Percent
Yes	145	19.2
No	302	40.1
Not sure	124	16.4
No response	183	24.3
Total	754	100.0

- Two-thirds (66%) revealed that they are discouraged to have many partners while 16% stated that they were encouraged by peers to have multiple partners (Table 4.21).

Table 4.21: Do your peers encourage you to have many partners?

Response	Frequency	Percent
Yes	123	16.3
No	405	65.7
No response	136	18
Total	754	100.0

4.2.7 Respondents' Intentions

The intentions of those sexually active with further explored. More than half (56%) of those sexually active intended to use a condom with their regular partner, but 40% did not intend to use a condom with their regular partner.

Unless there was confidence and respect among the partners this may be risky as more than half of the respondents do not intend to use condom with their regular partner.

Similarly, sexually active students were also asked about their intention of using condom with their casual partner. Most of the respondents (94%) replied positively.

This is motivating as casual partners differ from time to time condom usage could play protective role.

- Nearly all (98%) would report to a health clinic if they had signs of STI other than HIV/AIDS.
- More than half of the sexually active students (57%) were willing to have an HIV test.
- As a result of the questionnaire, students' were asked whether they intended to discuss condom use with their peers. About half 48% of the students would discuss condom usage with peers.

4.3 SUMMARY

The study to investigate the use of condoms among urban high school students in Asmara gathered baseline information about their demographic profile, knowledge, attitude and belief of HIV/AIDS as well as sexual practices and condom usage.

Knowledge about HIV/AIDS was relatively high. Some serious misconceptions however still exist, such as the link between STIs and HIV/AIDS. Only a third knew somebody who had HIV/AIDS.

One in five had experienced sex with a quarter of those having had sexual debut less than 16 years of age. Condom use was relatively low. A quarter of those sexually active said

that had more than two partners. There were many misconceptions identified about condoms and condom use. About a third were not aware that condoms could protect against STI and HIV infections. Only a quarter would use a condom for casual sex.

Drinking was reported in a relatively low number of students, but a third of those sexually active had sex whilst drunk.

Students' were confident about using condoms, but this did not carry through to practice. The group did not socially support the use of condoms.

The students' intentions of condom use were different to the actual practice. Only about half would use a condom with their regular partners and 94% intended to use a condom with a casual partner.

5.1 INTRODUCTION

In order to prevent HIV/AIDS in school children they will require a high-level of correct knowledge about the disease, the mode of spread, role of abstinence, being faithful and using condoms. In this chapter the results of this KABP of HIV/AIDS and condom use in the schools in Asmara, Eritrea will be discussed. Knowledge about HIV/AIDS was relatively high (95%). Most students accessed knowledge about HIV/AIDS from the mass media (41%) and health educators (32%).

5.2 DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS

The sample comprised students who were relatively well educated and predominantly males. This observation was consistent with the general sex ratio among high school students in the country. The sex ratio reverses from elementary students, where the number of females was higher than male students. The overall female to male ratio was greater than one among the general population of the country. Therefore, the proportion of female students among high school students was lower than what it was anticipated to be. One of the main reasons for this relatively low proportion of female students was arranged marriages, even to under – age girls.

There was a very wide range of ages in the classes selected. There was no policy on the upper cut – off age of pupils in schools in Eritrea.

The Coptic Orthodox religion was the predominant religion of the Eritrean population residing in the highland area in which the capital city Asmara is situated. Religion is a fundamental element of culture that has a positive impact in reducing HIV transmission among youth in the Eritrean situation. However, religion also plays a negative role when it comes to HIV/AIDS prevention measures other than abstaining from sex. Religious beliefs influence behaviour and preventive practices. Eritrea is a culturally and morally conservative society. Yet it is a very varied one. In particular, there are significant cultural

and social differences between the Christians and Moslems, with Moslems being more conservative than the Christians. ¹²This conservatism is reflected in the low rates of sexual activity observed in this study. However, these very marked cultural differences within Eritrea mean that the present study cannot adequately characterize all Eritrean high school students.

More than a quarter of students felt it would be wrong to keep a condom in their pocket. This attitude of the students could be attributed to the influence of the church and parental influence. As the majority of the students were followers of the Coptic Orthodox Church, they were influenced by the conservative nature of the religion that prohibits premarital sex let alone the keeping of a condom in a students pocket. Most of the students stay with their parents. There is strong parental pressure against pre-marital sex. Students might also be scared of their parents reaction if found with a condom in their pocket. Keeping a condom implies an intention to have sex.

Although only a small proportion smoked, there was a correlation between smokers and those who were sexually active. Alcohol use was low and its use was higher in males. Females are encouraged to stay at home and are pressurized to help their mothers with housework.

5.3 KNOWLEDGE, ATTITUDE AND BELIEF OF HIV/AIDS AND STIs

Certainly the young people appear to know enough to take active steps to avoid HIV and STDs when they become sexually active. It may be true that in the past that young people in Eritrea did not become sexually active until they had entered their only, lifelong, monogamous relationship. In such a setting being aware of HIV and STDs and ill equipped to prevent them may have been appropriate. That is no longer the case.²⁶

In this study, only a very small proportion of students had poor knowledge of the basics of HIV/AIDS. Despite this in the context of a burgeoning epidemic even the few who had poor knowledge about HIV/AIDS is worrying. Knowledge should be completely accurate in order to counteract the threat HIV/AIDS poses to the social, economic and physical health of the society.

The mass media (including television, radio, newspapers and magazines that are available in Eritrea) was the most commonly named source for HIV/AIDS and STIs information observed in this study. The Ministry of Health of Eritrea had drafted policy guidelines in 1998 on different aspects/ issues encompassing the health of youth and students.²² The policies ensure that all youth and students will have ready access to HIV information and education. Young people and particularly those at risk for HIV/AIDS should be provided with counseling and services including condom provisions appropriate to their age group. Youth and student associations should assume major responsibility in the dissemination of HIV/AIDS awareness and prevention activities among their members and the community at large.²² Health education was the second most commonly identified source of information for such diseases. The health education was given at schools by responsible members of the NUEYS in collaboration with the MOE and MOH.

These findings were similar to the study done among the students in Uganda in 1995. The study also revealed comparable results of knowledge about HIV/AIDS with the nationwide surveillance done among antenatal attendees and males in Eritrea in 2003.

Students recognised the mass media and health educators as their source of information. This was testimony to the governments' efforts and dedication in fighting the HIV/AIDS epidemic in the country. Few students stated other sources of information such as parents and friends or relatives. Most students knew that HIV causes AIDS and also indicated the difference between the two and understood that STIs could increase the risk of HIV infection. More over, most of them indicated that HIV/AIDS could not be transmitted by mosquito bites

Few students indicated that they knew somebody who was infected with HIV/AIDS attending school or participating on other daily activities. Students only became aware of HIV/AIDS in the later stages of HIV/AIDS when it hinders the person from attending school or other activities. At this stage the person living with HIV/AIDS becomes bedridden receiving home-based care and support by his family, counselors or other relatives until death occurs.

The number who had misconceptions about HIV/AIDS and its spread, however was still very worrying. All high school students in high prevalence areas should have minimal misconceptions if the epidemic was ever going to be brought under control. Knowledge about vertically transmission from an infected mother to her newborn child and through breastfeeding was disappointingly low. More campaigns are needed to increase the awareness of the youth with regard to the difference between HIV/AIDS and its spread.

The students knew that abstaining from sexual intercourse could protect against HIV/AIDS. There were some gaps between knowledge and practice. Not all the students were abstinent and were also not married. The reason for this could be inadequate knowledge, inconsistent and unskilled delivery of HIV/ awareness campaign to the target population specially the younger students.

5.4 SEXUAL PRACTICES OF RESPONDENTS

The KAPB survey of urban high school students in Asmara endeavored to gather data on the respondents' sexual practices. It is recognized that these questions may have been regarded as being extremely invasive and that in the context of a corporate school institution it was possible that a degree of under reporting occurred. This section of the discussion focuses on those respondents who stated that they had been sexually active.

Most of the students, both males and females and from all grades said that they had never had sex. This group also commented by saying that they did not have boy/girl friends while they were still at school and also reflected that they would have one partner after they finish their academic career. Sexual experience increased from grade 10 to grade 11 mainly because of the peer influence and academic maturity. Boys were more likely to report sexual activity than were girls due to the traditional values towards virginity and prostitution. Traditionally, at the time of marriage in the highlands of Eritrea a girl should still be a virgin.

The proportion of boys reporting having experienced sexual intercourse was about three times that of girls. Even fewer girls reported using condoms, a finding similar to the

studies done in Uganda. The observed very low rate of sexual activity was associated with Eritrean cultural value that prohibits premarital sex. ¹²

5.5 KNOWLEDGE, BELIEF AND USAGE OF CONDOM OF RESPONDENTS

More than half of the students believed that keeping condoms in their pockets was a risk reduction practice against HIV/AIDS. A quarter of the survey participants had contrary views to such beliefs. Among other things, cultural influences such as religious beliefs and traditional prohibition of premarital sex have affected opinions among the students with regard to having and using condoms. Eritrea is still a country that has been heavily influenced by Christian beliefs in the high land area for a long period of time. Romantic and sexual relationships were traditionally perceived to be very "intimate" and hence not to be discussed in public. ¹² Thus sexuality was a "taboo" topic. In such a context, premarital sexual activity was highly stigmatized and still not accepted. ¹²

Most felt condoms were affordable which reflects the wide distribution of condoms at different sites in Asmara such as in commercial pharmacies, shops and bars. This study has shown that a small proportion of students of both sexes report having engaged in sexual intercourse while at school. The students' faith in the value of condoms to protect them from HIV by using a condom every time they have sex was relatively low. Despite this, of those who reported sexually active, 70% said they always used a condom, 23% used sometimes and 7% never used. This implies that there was high acceptance of condom as a protective measure from HIV and STIs after abstinence. This finding is consistent with the small number of other studies of Eritrea's young people in this age range. While most students in this study are not yet sexually active, they will become so in the years to come. There is evidence that they will be equipped with the appropriate skills and knowledge when that time comes.

Only a quarter would use a condom with a casual sex partner. This was low and more motivation was needed to enhance condom usage, especially for those engaging in casual sex. Mostly casual sex happens in situations like nightclubs during alcohol abuse may lead to unsafe sex practices. ¹² Students were more prepared to use a condom with

their regular partner, but practice was much lower than their intentions. Respondents have reported it positively, which should enhance confidence and good relations in the partners.

A quarter of the sexually active respondents reported having had an STI. The high association of STIs with HIV means that all of these were at a great risk of contracting HIV.

In Eritrean culture the males were much more comfortable to talk about condom use with their partners than the females. Culturally it is the men who ask for friendship, marriage and sex.¹² Similarly, the respondents showed different feelings about buying condoms from the pharmacy when they were in need of them. Very few students really felt confident of buying condoms from a shop. Students might feel shy or guilty about buying a condom from a pharmacy or any other shop due to their cultural and ethical beliefs.

There is concern about students' engaging in risky sexual behaviour whilst under the influence of alcoholic drinks and thus predisposing themselves to the risk of HIV/AIDS. In this study it was found that only 27% of those who were sexually active while drunk used condoms. There is a high probability of having unsafe sex influenced by alcohol abuse, which might lead to increased transmission of HIV and STI infections.

The study shows a small proportion willing to "take chances" as a result of the unavailability of condoms. The only way to completely prevent HIV and STIs infection is either abstinence from sex or consistent use of barrier contraception. There is a definite risk for those who take chances.

Overall, the trend appears to be that there is strong agreement among the school youth not to be involved in sexual activities while at school and this resulted to low level of condom use in this study.

5.6 SELF-EFFICACY OF RESPONDENTS

On the issue of personal self-efficacy of respondent to use condoms with their regular or casual partners, most respondents were confident about this. There also seems a good understanding of using condoms even if they have been drinking alcohol and being able to refuse sex if their partner did not want to use a condom. This ability signifies students' potential to protect them from the dreadful HIV/AIDS disease and stay healthy for the future.

5.7 SOCIAL INFLUENCE OF RESPONDENTS

In respect of social influence, most respondents were having support from their friends to use condoms. Three quarters were being encouraged by their friends to have only one partner. Many said their parents did not support them to using condoms but also commented that their parents advise and told them of the dangers of HIV/AIDS and the danger of going to nightclubs. Parents still have strict attitudes towards their children's sexuality, especially when their children are still going to school.¹² Most parents do not support their children have intimate relationships before marriage. In keeping with this construction of sexuality, the young people in this study appear poorly informed about their own sexuality and the prospect of HIV and other STDs entering their lives.

5.8 RESPONDENTS' INTENTIONS

Students show discriminatory intentions towards using a condom with regular partners. Unless there is confidence and respect between the regular partners this may lead to unwanted pregnancy and even STIs. The reason is that one of the partners may cheat. Most respondents indicated their intention to use a condom with their casual partner. This goes concurrently with the advocacy that is being done by the responsible institutions such as NUEYS, MOE and MOH.

Interestingly, the proportion of students who acknowledged their intention to discuss the issue of condom use with their peers increased from 46% and 47% in grades 9 and 10 respectively to 50% in grade 11. This result shows that the awareness about HIV/AIDS and the need for a condom use increases as the students increase in their physical and mental maturity.

5.9 SUMMARY

A substantial proportion of students in this study had a good knowledge about HIV/AIDS. Most knew how to protect themselves from infection.

Although only relatively few reported being sexually active a finding, which is consistent with the Eritrean cultural, value that prohibits premarital sex. Unsafe sexual practices were still reported far too commonly

6.1 INTRODUCTION

This chapter gives the main conclusion and some appropriate recommendations, which arise from this survey.

6.2 CONCLUSIONS

Most students were born in Asmara and are single, living with their parents. There was a wide range of ages in the various classes. These students would have very different levels of maturity and sexual experiences. Religion and culture play a major part in sexual norms in this society.

Tobacco and alcohol use are low but those who use these risky substances might be motivated to develop unsafe sexual behaviours that eventually leads them to be victims of STIs or HIV/AIDS.

While the students' knowledge, attitude and beliefs of HIV/AIDS and STIs is good it is limited in scope. Their information on HIV as a cause of AIDS and understanding of STIs in increasing the risk of HIV and its sequels is extremely high. The majority of students know that people could protect themselves from HIV by abstaining from sexual intercourse. Serious misconceptions still occur in school children and although this is in a minority it is worrying.

On a more positive note, students displayed generally a good attitude towards not practicing sex while in their academic enrollment. Students also had a fairly non-discriminatory attitude to people with HIV/AIDS. This result is somewhat surprising given the association between HIV and sexual transmission – a highly stigmatized practice in Eritrea.

6.3 RECOMMENDATIONS

In this part, recommendations on encouraging school youth in Eritrea to use condoms, improving access to condoms for youth, utilizing peer educators at schools as part of a health education programme, HIV/ prevention and other STIs, for policy and practice and for further studies will be presented.

6.3.1 Recommendations for Encouraging School Youth in Eritrea to Use Condoms

Despite the overall widely held perception that it is not culturally acceptable to engage in premarital sex (and thus to carry condoms), the majority of both male and female participants of the study identified that condom use should be supported as a risk reduction from HIV infection. So in line with the already existing norm (culturally unacceptable premarital sex), an intensive HIV/AIDS and STIs related health education campaign needs to be re-enforced and implemented at public and private schools in order to provide young people with the skill and knowledge necessary to enact safe behaviors. This will immediately provoke concern that such education is found to enhance, raise school youth's awareness and condom usage as well as it greatly decreases the risk of these adolescents from HIV/AIDS and STIs.

6.3.2 Recommendations for Improving Access to Condoms for Youth

Promoting improved access to condoms at high schools is often dependent upon Eritrea's government policies through the Ministry of Education. Therefore, given the current threat of HIV/AIDS epidemic at national and international level, there should be clear policies and guidelines concerning easy accessibility and distribution of condoms at places like schools, health facilities, pharmacies, shops and bars without control and tightness. Hence, the youth are able to obtain and belief it as a risk reduction tool from HIV/AIDS and other STIs. Moreover, this improved access and distribution of condoms will enable school youth to practice health promoting behaviors

6.3.3 Recommendations for Utilizing Peer Educators at Schools as part of a health education programme

In line with the health education programs being carried out on high schools of Eritrea, concerned bodies such as MOH, MOE and NUEYS should cooperate with each other in recruiting peer educators at these schools. These peer educators can play a major role in influencing their peers at school to understand and follow safe sex behaviors. Because of the relatively same age and possessing common characters and ideas, they share constructive opinions that help and protect them from risky sexual behaviors. Therefore, the recruitment of peer educators must be organized and implemented by the concerned parties without delay.

6.3.4 Recommendations for Preventing HIV Infection and Other STDs

Abstaining from sexual activity is the most effective HIV/ prevention strategy. However, for individuals who choose to be sexually active, the following are highly effective:

- Engaging in sexual activities that do not involve vaginal, anal, or oral intercourse
- Having intercourse only with one uninfected partner
- Using latex condoms correctly from start to finish with each act of intercourse
- Making responsible choices – in summary, sexually transmitted diseases, including HIV infection, are preventable, and individuals have several responsible prevention strategies to choose from. However, the effectiveness of each one depends largely on the individual. Those who practice abstinence as a prevention strategy will find it effective only if they always abstain. Similarly, those who choose any of the other recommended prevention strategies, including condoms, will find them highly effective if used correctly and consistently.

6.3.5 Recommendations for Policy and Practice

Health promotion programs – while schools are an important site for sexual health and drug and alcohol education programs for young people, health services and health planners also have a role to play in supporting the work of schools. Health services and health promotion programs should, where possible, work in partnership with schools to ensure that sound programs are implemented and that young people are assisted to access health services. It is also important that health services adopt policies and programs, which make young people more user-friendly and welcoming to young people who are inexperienced in accessing sexual health services.

The continuing levels of condom use are indicative that health programs and improved condom availability can contribute to behavior change. Young people can make good decisions about their sexual health if policies, programs and services are available to help them do so.

6.3.6 Recommendations for Further Studies

- That funding is sought for a comprehensive, nationally representative survey of the sexual health knowledge, attitudes, beliefs and practice of Eritrea's high school students. It is imperative that an evidence base be developed that captures the social and cultural variation between different religious and ethnic groups in Eritrea and that also reflects the very different experiences that different groups have of the HIV/ epidemic.
- That on the basis of this pilot study, a qualitative study be undertaken to explore the settings in which young people would most like to receive sexuality and gender education with particular emphasis on the complementary roles of the family, the school and other institutions such as NUEYS. A particular focus should be the quantity and quality of advice that parents provide to their children about HIV, STDs and condom use. The role of peers should also be examined.

6.4 SUMMARY

Students in Asmara schools had relatively high levels of knowledge about HIV/AIDS, STIs and the value of condoms in preventing these sexual infections and the relatively low reported sexual activity. Despite this the students with poor knowledge and engaging risky behaviour constitute a significant risk for the spread of HIV/AIDS and STIs in this culturally conservative society.

An intensive school based health promotion programme is recommended taking into consideration the cultural circumstances, existing practices and potential risk of the HIV/AIDS and STI epidemic in this area.

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APPENDIX I: ETHICAL APPROVAL

8 June 2004

Dr S Knight
Community Health
Nelson R Mandela School of Medicine

Dear Dr Knight

PROTOCOL: Investigating the use of condoms among urban high school students in Asmara, Eritrea. Z T Solomon, Community Health. Ref.: H016/04

The Research Ethics Committee and the Higher Degree Committee considered the abovementioned application and made various recommendations. These recommendations have been addressed and the protocol was approved by consensus at a full sitting of the Research Ethics Committee at its meeting held on 8 June 2004. This approval is valid for one year from this date. To ensure continuous approval, an application for recertification should be submitted a couple of months before the expiry date.

Yours sincerely

PROFESSOR A DHAI

Chair: Research Ethics Committee

C.c. Mr Z T Solomon: zewe2003@yahoo.com

Mrs. L Adendorff, Postgraduate Education

Nelson R Mandela School of Medicine, Faculty of Health Sciences,
Medical Research Administration

APPENDIX II: CONSENT FORM TO PARTICIPATE IN RESEARCH PROJECT

**UNIVERSITY OF KWAZULU- NATAL
SCHOOL OF FAMILY AND PUBLIC HEALTH MEDICINE
DEPARTMENT OF COMMUNITY HEALTH
Faculty of Health Sciences**
☒ Private Bag 7, CONGELLA 4013, South Africa
Telephone: (+27) 031 260 4287/4383
Facsimile: (+27) 031 260 4211
Website E-mail:dch@med.ukzn.ac.za

Dear Learner,

CONSENT FORM TO PARTICIPATE IN RESEARCH PROJECT

As you know in Eritrea, there are many people with HIV/AIDS and many people are being infected at a young age. We want to try to prevent learners at school from being infected and to teach them how to protect themselves. One way to protect against being infected with HIV/AIDS is to use condoms.

We want to find out about the understanding of school children about HIV /AIDS and also their use of condoms in high schools in Asmara, so that we can teach learners what places them at risk and how they can protect themselves. We are asking your permission if we can ask you questions about HIV/AIDS and about what you think about using condoms. We will then know what you need to know about HIV/AIDS and preventing infection and particularly about using condoms to prevent infections.

Please could we ask you to participate in this study.

Learners will not put their names or the names of their units on the questionnaire so the information collected will be confidential. Ethical approval for this study has been granted by both the University of KwaZulu-Natal Research and Ethics committee and the University of Asmara Research Committee.

Please will you sign this letter if you want to take part. If you do not want to participate in the survey there will be no problems, either at work, or in getting health care later from the clinic or hospital. Thank you

Zeweldi Tesfamariam Solomon

MPH Student

I agree to participate in this research on knowledge about HIV/AIDS and sexual practices in the high schools.

Learners Signature Date:

Witness SignatureDate.....

Contact address of the Medical Research Administration – tel.: (031) 260 4495; fax: (031) 260 4410; e-mail : ethicsmed@ukzn.ac.za. Chair : Professor A Dhai – tel. (031) 260 4604; fax: (031) 260 4410; e-mail : dhaia1@ukzn.ac.za

APPENDIX III: INFORMATION DOCUMENT

Study title: INVESTIGATING THE USE OF CONDOMS AMONG URBAN HIGH SCHOOL STUDENTS IN ASMARA, ERITREA

As you know in Eritrea there are many people with HIV/AIDS and many people are being infected at a young age. We want to try to prevent learners at school from being infected and to teach them how to protect themselves.

One way to protect against being infected with HIV/AIDS is to use condoms.

We want to find out about this so we can teach learners what places them at risk and how they can protect themselves. We are asking your permission if we can ask you questions about HIV/AIDS and about what you think about using condoms. We will then know what you need to know about HIV/AIDS and preventing infection and particularly about using condoms to prevent infections.

I am Mr. TS Zeweldi a Master of Public Health student studying at the University of KwaZulu-Natal in South Africa. We are doing this study to find out about the knowledge, attitude, beliefs and practices (KABP) of high school learners in schools in Asmara with regard to HIV/AIDS and STI.

We want to know this so we can teach learners what places them at risk and how they can protect themselves. We are asking your permission if we can ask you questions about HIV/AIDS and your sexual practices.

Learners will not put their names or the names of their units on the questionnaire so the information collected will be confidential. Efforts will be made to keep personal information confidential.

Absolute confidentiality cannot be guaranteed. Personal information may be disclosed if required by law. If you decide not to participate you will not be penalized in any way. You will still receive treatment at the clinics or hospitals like any other patient.

Ethical approval for this study has been granted by both the University of KwaZulu-Natal Research and Ethics committee and the University of Asmara Research Committee.

The survey will take about 45 minutes to complete.

If you want to know anything about HIV / AIDS or the use of condoms to protect against these infections please ask the field worker. They can tell you a lot about it.

If you have any complaints or problems with the study or would like to see a copy of the Research Protocol or the results of the study you could contact Dr. Tewelde Zerom, from the University of Asmara, Research Committee who will respond to your problems and queries.

With thanks

Mr TS Zeweldi

MPH Student

APPENDIX IV: QUESTIONNAIRE ADMINISTERED TO PARTICIPANTS

Section 1. General background of respondent

Please tick (✓) where applicable

1. Academic level (grade) _____
2. Gender: a) Male b) Female
3. Religion a) Orthodox b) Moslem c) Protestant
d) Catholic e) Other
4. How old are you? years
5. What is your marital status? a) Single b) Married
c) Divorced d) Other
6. Where were you born? a) Village b) Town/City
7. With whom do you live? a) Alone b) With my parents

c) With my relative d) With my friends
e) Other
8. 8.1 Do you use tobacco or smoke a) Yes b) No
- 8.2 Do you have a friend who smokes cigarettes? a) Yes b) No
9. Do you use alcohol? a) Never b) Sometimes c) Always

Section 2. Knowledge, attitude and belief of HIV/AIDS and STIs of respondent

1. Have you ever heard of HIV/AIDS?

- a) Yes b) No c) Not Sure

2. Where do you get most of your information about HIV/AIDS?

- a) From parents b) From Friends/relatives c) From mass media
d) From health education e) From others (more than one answer)

3. Do you think HIV causes AIDS?

- a) Yes b) No c) Not Sure

4. Can a person get HIV from mosquito bites?

- a) Yes b) No c) Not Sure

5. Have you personally known someone who had AIDS or was infected with AIDS virus?

- a) Yes b) No c) Not Sure

6. Is there a difference between HIV and AIDS?

- a) Yes b) No c) Not Sure

7. Do Sexually Transmitted Infections (STIs) increase the risk of HIV infection?

- a) Yes b) No c) Not Sure

8. Can a person get HIV by sharing a meal with someone who is infected?

- a) Yes b) No c) Not Sure

9. Do you think a woman with HIV or AIDS transmits the virus to her newborn
Child through breastfeeding?

- a) Yes b) No c) Not Sure

10. Can a pregnant woman infected with HIV virus pass on to her unborn child?

- a) Yes b) No c) Not Sure

11. Can people protect themselves from HIV by abstaining from sexual intercourse?

- a) Yes b) No c) Not Sure

12. Can AIDS be cured?

- a) Yes b) No c) Not Sure